

# CENTRAL CALIFORNIA ENVIRONMENTAL SENSITIVITY INDEX METADATA

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**FILE DESCRIBES:** Digital data for 1994 Central California Environmental Sensitivity Index.

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**COMMENTS:** Information was developed using the U.S. Federal Geographic Data Committee's Content Standards for Digital Geospatial Metadata, June 8, 1994. The numbering scheme matches the Metadata Standard in order to facilitate referencing definitions of the elements. The items in **bold** are required elements and the others are optional elements. The Spatial Data Transfer Standard (SDTS), ver. 03/92, was referenced to properly identify the geographic entities.

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## 1.0. IDENTIFICATION INFORMATION

### 1.1. CITATION

#### 1.1.1. ORIGINATOR:

National Oceanic and Atmospheric Administration (NOAA),  
National Ocean Service, Office of Response and Restoration,  
Hazardous Materials Response Division, Seattle, Washington and the  
State of California, Department of Fish and Game, Office of Spill  
Prevention and Response, Sacramento, California

#### 1.1.2. PUBLICATION DATE:

200005

#### 1.1.4. TITLE:

Sensitivity of Coastal Environments and Wildlife to Spilled Oil:  
Central California

#### 1.1.5. EDITION:

First

#### 1.1.6. GEOSPATIAL DATA PRESENTATION FORM:

Atlas

#### 1.1.7. SERIES INFORMATION

##### 1.1.7.1. SERIES NAME:

None

##### 1.1.7.2. ISSUE IDENTIFICATION:

Central California

#### 1.1.8. PUBLICATION INFORMATION

##### 1.1.8.1. PUBLICATION PLACE:

Seattle, Washington

##### 1.1.8.2. PUBLISHER:

National Oceanic and Atmospheric Administration (NOAA),  
National Ocean Service, Office of Response and Restoration,  
Hazardous Materials Response Division, Seattle, Washington

#### 1.1.9. OTHER CITATION DETAILS:

Prepared by Research Planning, Inc., Columbia, South Carolina for  
the National Oceanic and Atmospheric Administration (NOAA),  
National Ocean Service, Office of Response and Restoration,  
Hazardous Materials Response Division, Seattle, Washington and the  
State of California, Department of Fish and Game, Office of Spill  
Prevention and Response, Sacramento, California

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### 1.1.10. ONLINE LINKAGE:

Not available

### 1.1.11. LARGER WORK CITATION:

None

## 1.2. DESCRIPTION

### 1.2.1. ABSTRACT:

This data set comprises the Environmental Sensitivity Index (ESI) maps for the shoreline of central California. ESI data characterize coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources

### 1.2.2. PURPOSE:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources

## 1.3. TIME PERIOD OF CONTENT

### 1.3.1. TIME PERIOD INFORMATION:

#### 1.3.1.3. RANGE OF DATES/TIMES:

The intertidal habitats were mapped during aerial and ground surveys conducted from 7-14 May 1992. The biological and human-use resources data were compiled by regional biologists in 1994. The dates for these data vary and are documented in Section 2.5.1

## 1.4. STATUS

### 1.4.1. PROGRESS:

Complete

### 1.4.2. MAINTENANCE AND UPDATE FREQUENCY:

None planned

## 1.5. SPATIAL DOMAIN

### 1.5.1. BOUNDING COORDINATES:

#### 1.5.1.1. WEST BOUNDING COORDINATE:

-123.11°

**1.5.1.2. EAST BOUNDING COORDINATE:**

-120.38°

**1.5.1.3. NORTH BOUNDING COORDINATE:**

38.12°

**1.5.1.4. SOUTH BOUNDING COORDINATE:**

34.40°

**1.6 KEYWORDS**

**1.6.1. THEME:**

**1.6.1.1. THEME KEYWORD THESAURUS:**

None

**1.6.1.2. THEME KEYWORD:**

Sensitivity maps, ESI, coastal resources, oil spill planning, and coastal zone management

**1.6.2. PLACE**

**1.6.2.1. THESAURUS:**

None

**1.6.2.2. PLACE KEYWORD:**

Central California: from Point Conception to Point Reyes

**1.7. ACCESS CONSTRAINTS:**

None

**1.8. USE CONSTRAINTS:**

DO NOT USE ESI MAPS FOR NAVIGATIONAL PURPOSES.

Besides the above warning, there are no use constraints on these data.

Acknowledgment of the publishers and contributing sources listed in 1.11. would be appreciated in products derived from these data.

**1.11. DATA SET CREDIT:**

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington and the State of California, Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California

**1.13. NATIVE DATA SET ENVIRONMENT:**

The software packages used to develop the atlas are Environmental Systems Research Institute's Arc/Info (version 7.0 pre-release) and Oracle RDBMS

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(version 6.0.36.1.1). The hardware configuration is Hewlett Packard work-stations (models 715/50 and 712/80 with 4 X-terminals) with UNIX operating system (HP-UX Release A.09.01). The following files are included in the data set:

bio_lut.e00	biofile.e00	biores.e00
birds.e00	breed.e00	breed_dt.e00
esi.e00	experts.e00	fish.e00
habitats.e00	hydro.e00	index.e00
invert.e00	m_mammal.e00	nests.e00
reptiles.e00	seasonal.e00	soc_dat.e00
soc_lut.e00	socecon.e00	species.e00
status.e00		

The entire data set is approximately 54 megabytes.

### 1.14. CROSS REFERENCE:

The Northern and Central California coasts were previously mapped for the Minerals Management Service (Pacific Outer Continental Shelf Region, Los Angeles), by Woodward-Clyde Consultants, (Environmental Systems Division, San Francisco) in November, 1982

## 2.0. DATA QUALITY INFORMATION

### 2.1. ATTRIBUTE ACCURACY

#### 2.1.1. ATTRIBUTE ACCURACY REPORT:

The attribute accuracy is estimated to be “good” given the years of ESI experience, the data input methodology, the quality control review sessions, and the digital logical consistency checks.

### 2.2. LOGICAL CONSISTENCY REPORT

The digitization of shoreline types, biological resources, and human-use resources is a complex and highly quality-controlled process. In order to facilitate digitizing, the entire study area is split into individual quadrangles using the INDEX coverage. The first layer of information digitized is the ESI shoreline classification. Upon completion of digitization, the data are checked for completeness and topological and logical consistency, and then plotted and checked by the mapping geologists. Any errors in the shoreline classification are updated prior to digitization of the biological and socioeconomic layers. All layers use the shoreline as the geographic reference so that there are no slivers in the geographic coordinates. The hardcopy biological information is compiled onto 1:24,000 USGS topographic quadrangles by a biological expert using data from regional specialists in the form of maps, tables, charts, and written descriptions of wildlife distributions. The data are digitized, checked using both digital and on-screen procedures, plotted, and sent out for review by the regional specialists. The edited maps are updated, checked once again, and the final product plotted (at approximately 1:50,000 scale). A team of specialists reviews the entire series of maps, checks all data, and makes final edits. The data are then merged to form the study-wide layers. The data merging includes a final quality-control check where labels, chains, and polygons are checked for attribute accuracy.

To finalize the data checking process, each coverage is checked using a standardized form by two GIS personnel (a technician and the GIS manager), and each attribute database is checked using several programs that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and ORACLE® to ARC/INFO® consistencies. A final review is made by the GIS manager and programs are run to generate the unique IDs and associated lookup tables.

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new IDs and RARNUMs are also generated. The new IDs are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUMs are also modified to include the atlas number, so multiple atlases can be combined and RARNUMs remain unique. RARNUMs are redefined on an element basis, so resource at risk groupings will contain only a single element.

ESI data are also processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include ARC export, MOSS and Shape files, and MARPLOT map folders. An ArcView ESI project and a MARPLOT ESI product are also included on the CDs for ease of use of the ESI data. The database files are also distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats. Section 3.0, outlining Spatial Data Organization, refers to the source files in ARC export format only.

### **2.3. COMPLETENESS REPORT**

#### Shoreline Habitat Mapping:

Prediction of the behavior and persistence of oil on intertidal habitats is based on an understanding of the dynamics of the coastal environments, not just the substrate type and grain size. The vulnerability of a particular intertidal habitat is an integration of the following factors:

- 1) Shoreline type (substrate, grain size, tidal elevation, origin)
- 2) Exposure to wave and tidal energy
- 3) Biological productivity and sensitivity
- 4) Ease of cleanup

All of these factors are used to determine the relative sensitivity of intertidal habitats. Key to the sensitivity ranking is an understanding of the relation-

ships between: physical processes; substrate; shoreline type; product type; fate and effect; and sediment transport patterns. The intensity of energy expended upon a shoreline by wave action, tidal currents, and river currents directly affects the persistence of stranded oil. The need for shoreline cleanup activities is determined, in part, by the slowness of natural processes in removal of oil stranded on the shoreline.

These concepts have been used in the development of the ESI, which ranks shoreline environments as to their relative sensitivity to oil spills, potential biological injury, and ease of cleanup. Generally speaking, areas exposed to high levels of physical energy, such as wave action and tidal currents, and low biological activity rank low on the scale, whereas sheltered areas with associated high biological activity have the highest ranking.

#### Sensitive Biological Resources:

Regional biologists compiled the biological data. These data denote the key biological resources that are most likely at risk in the event of an oil spill. Six major categories, or ELEMENTS, of biological resources were considered during data compilation: birds, fish, habitats/rare plants, invertebrates, marine mammals, and reptiles/amphibians. The ELEMENTS generally correspond to the coverage or geographic data layer names.

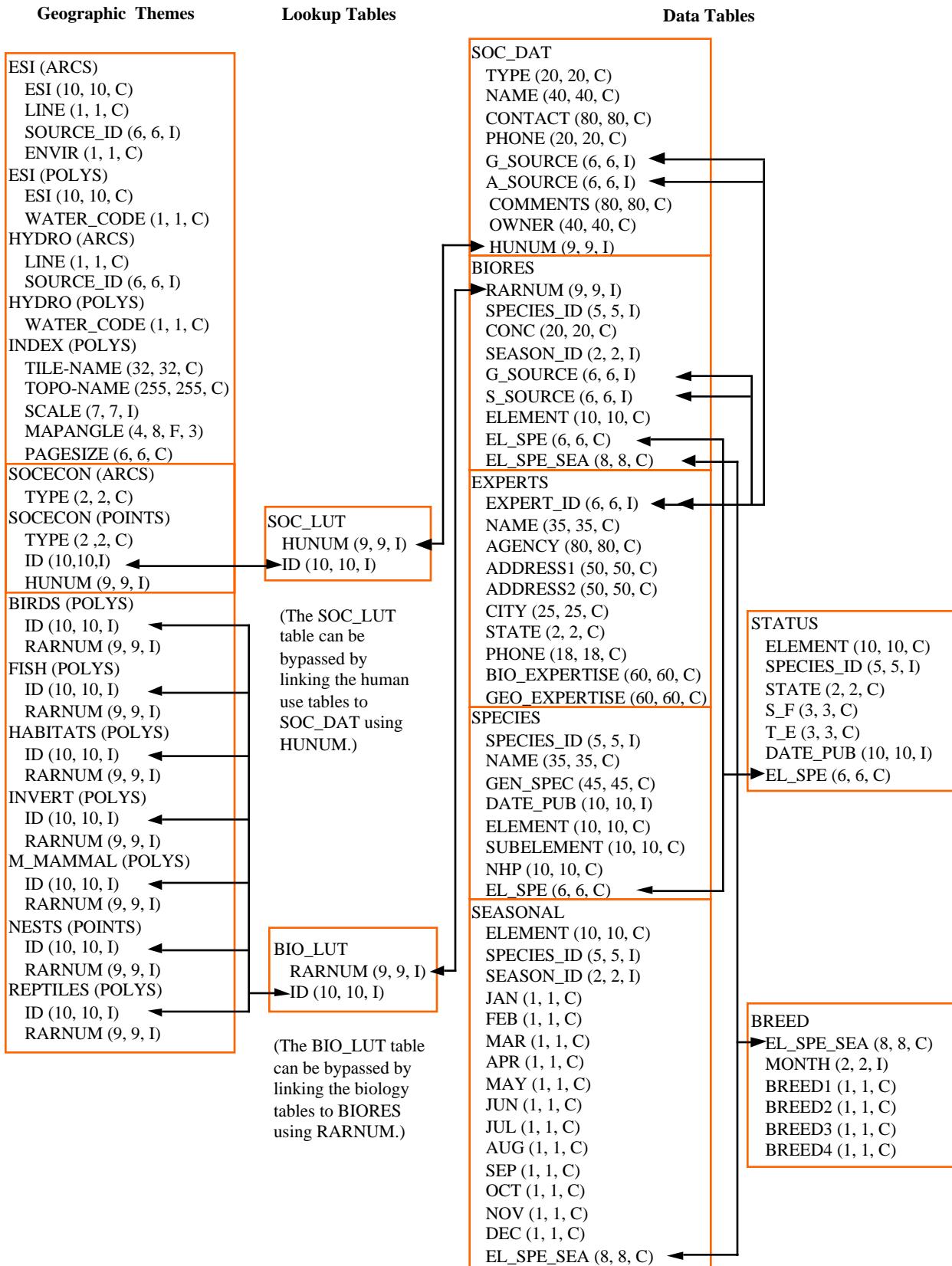
There are also six attribute or data tables, BIORES, BREED, SEASONAL, EXPERTS, SPECIES, and STATUS, that are used to store the complex biological data (Fig. 1). Each biological coverage is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO\_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for Central California this is 8), an element specific number (birds are layer 1, fish are layer 2, etc.), and a unique record number. The items in BIORES include: RARNUM, SPECIES\_ID, CONC, SEASON\_ID, G\_SOURCE, S\_SOURCE, ELEMENT, EL\_SPE, and EL\_SPE\_SEA.

SPECIES\_ID is the numeric identifier of each species and is unique within each ELEMENT. CONC is the concentration of the species and can be descriptive (LOW, MEDIUM, HIGH, etc.) or an actual count of the number of individuals or nests associated with a polygon or point. SEASON\_ID contains a numeric identifier for the unique monthly presence and life history characteristics of each species at a given location. There can be one seasonality record per species, or the same species can have different monthly

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presence or breeding activities at different sites. When this occurs, a new record with a different SEASON\_ID is referenced.

G\_SOURCE and S\_SOURCE both hold the link to the EXPERTS data table. These items are duplicated with the G\_SOURCE and S\_SOURCE naming convention to mimic the current relational data structure. EL\_SPE is a concatenation of ELEMENT and SPECIES\_ID, and links to the SPECIES and STATUS tables. EL\_SPE-SEA is a concatenation of ELEMENT, SPECIES\_ID, and SEASON\_ID, and links to the SEASONAL and BREED data tables.

**FIGURE 1.** Relationships between biology coverages and attribute files.

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The SPECIES data table contains the SPECIES\_ID (described above), common name (NAME), scientific name (GEN\_SPEC), date the list of Natural Heritage Program (NHP) ranks was published (DATE\_PUB), biological element (ELEMENT), biological subelement (SUBELEMENT), and the NHP global conservation status rank. The item SUBELEMENT refers to the grouping of the species:

ELEMENT	SUBELEMENT
BIRD	Alcid Diving Coastal Bird Gull/Tern Passerine Pelagic Raptor Shorebird Wading Bird Waterfowl
FISH	Anadromous Beach Spawner Kelp Spawner Reef Fish Special Concentration
HABITAT	Marsh Submerged aquatic vegetation (sav) Shrub
INVERT	Abalone Cephalopod Clam Conch/Whelk Echinoderm Gastropod Mussel Oyster Scallop Squid/Octopus Crab Lobster Shrimp
MARINE MAMMAL	Dolphin Manatee Sea Lion Sea Otter Seal Whale

ELEMENT	SUBELEMENT
REPTILE	Alligator/Crocodile Sea Turtle
TERRESTRIAL MAMMAL	Bear Deer Mustelid Rodent

The STATUS data table contains records for each species that is threatened or endangered on state or federal lists. The items include: ELEMENT, SPECIES\_ID, STATE (two-letter state abbreviations), S\_F (state or federal status), T\_E (threatened or endangered status), DATE\_PUB, and EL\_SPE.

The SEASONAL data table stores the monthly presence of each species where each species is defined as three-character monthly abbreviations. The BIORES table is linked to the SEASONAL table using either the combination of SPECIES\_ID, ELEMENT, and SEASON\_ID items, or the item EL\_SPE\_SEA, which contains the concatenation of these items.

The BREED data table contains the life stage or life history data for each unique combination of ELEMENT, SPECIES\_ID, and SEASON\_ID (or EL\_SPE\_SEA), and up to 12 records (corresponding to each month of the year) can have different attributes and therefore separate records. The categories for each element of the items BREED1 through BREED4 are:

ELEMENT	BREED 1	BREED 2	BREED 3	BREED 4
BIRD	nesting	laying	hatching	fledging
FISH	spawning	outmigration		
INVERT	mating	spawning		
M_MAMMAL	mating	calving	pupping	
REPTILE	nesting	hatching		

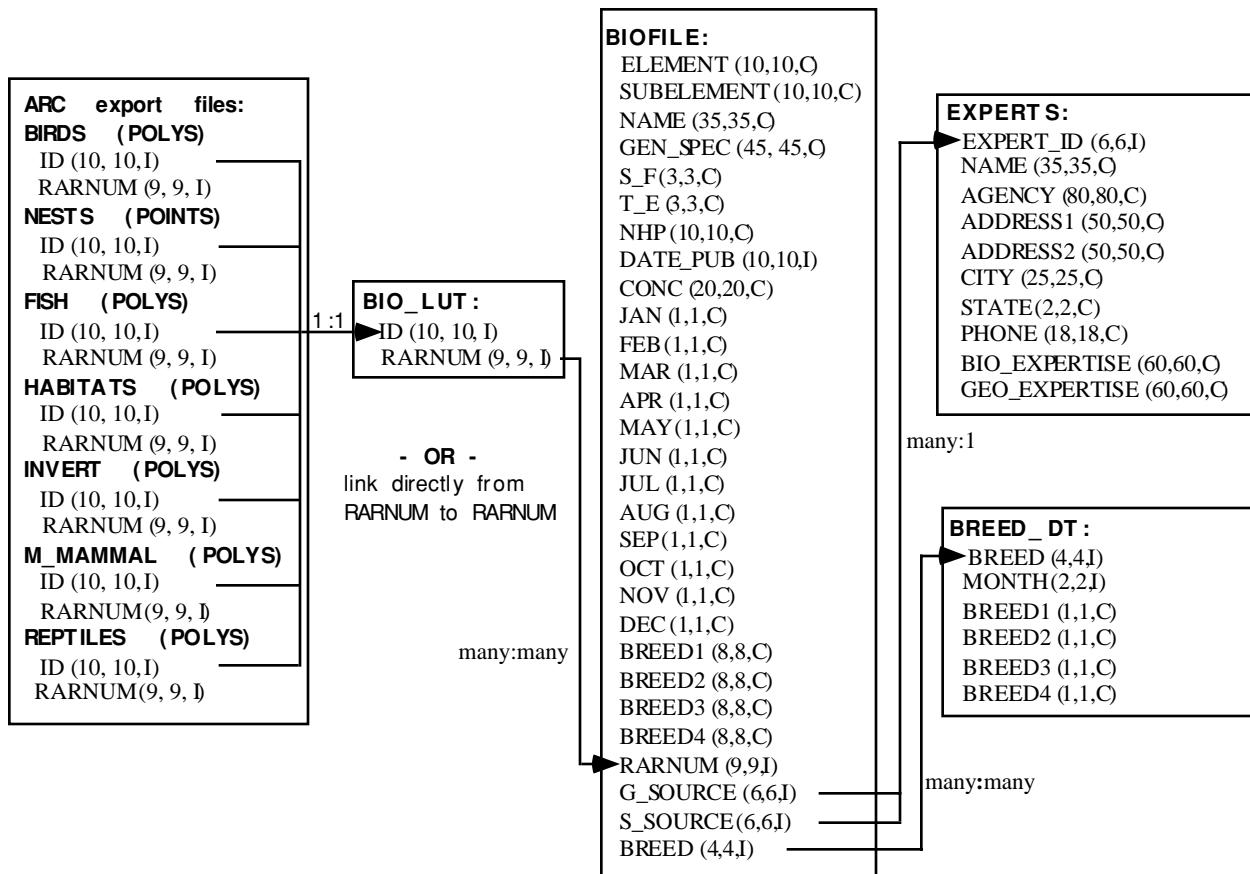
NOTE: There are no BREED variables for HABITATS.

The EXPERTS data table contains detailed contact and source information for many of the entries in BIORES and the flat BIOFILE (see Fig. 2 below). The EXPERTS table is linked to these tables through EXPERT\_ID from either the G\_SOURCE or S\_SOURCE item. If there is no expert information available, G\_SOURCE and S\_SOURCE will be set to zero (0). The items in EXPERTS are: EXPERT\_ID, NAME (primary expert and/or contact for the resource), AGENCY (affiliation of the listed expert), ADDRESS1, ADDRESS2, CITY,

STATE, PHONE, BIO\_EXPERTISE (biological expertise of the expert), and GEO\_EXPERTISE (geographic extent of expert's expertise).

Due to the complexity of the relational database model, the biological data items are post processed into a flat file format. This file is entitled BIOFILE and it may be used in place of the relational files to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN\_SPEC, S\_F, T\_E, NHP, DATE\_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, RARNUM, G\_SOURCE, S\_SOURCE and BREED. All of these items are the same as their counterparts in the individual files described above, except the item BREED and the BREED1–BREED4 items. BREED is a newly generated variable used to link to the BREED\_DT file, a modified, more compact version of the aforementioned BREED file. Breed1–Breed4 give a text summary of when each life stage occurs within that polygon. The life stages referred to are the same as those listed in the previous table. The link to the BIOFILE may be made through BIO\_LUT using ID to link to RARNUM, or it may be linked directly to the RARNUM in each of the biology cover's attribute files. As mentioned, BREED\_DT is an auxiliary support file to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED\_DT is the BREED item. A second supporting data file is EXPERTS. This is the same as the EXPERTS file described above and the link from the flat file is both G\_SOURCE and S\_SOURCE.

It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational files.



**FIGURE 2.** Relationship of the BIOFILE to the biological covers and the supplementary BREED\_DT and EXPERTS data tables.

#### Human-Use Resources:

Several human-use, or socioeconomic, features are included in ESI atlases. Entity points and complete chains (arcs) are digitized into the data layer SOCECON. This data set is linked to the data table SOC\_DAT using the SOC\_LUT lookup table and the items HUNUM and ID. ID is a concatenation of atlas number (8), element number (SOCECON = 10), and unique record number.

All features are attributed using the item SOCECON and identify the type of feature:

Entity Points		Complete Chains	
Feature	TYPE	Feature	TYPE
Access	A2	Beach	B
Airport	A	Marine Sanctuary	MS
Aquaculture	AQ	National Park	NP
Archaeological Site	AS	Park / State Park	SP
Boat Ramp	BR	Recreational Beach	RB
Coast Guard	CG	Wildlife Refuge / Wildlife Reserve	W R
Commercial Fishing / Fishery Area	CF		
Historical Site	HS		
Hoist	H		
Marina	M		
Marine Sanctuary	MS		
National Park	NP		
Park / State Park	SP		
Recreational Beach	B		
Recreational Fishing / Public Fishing	RF		
Water Intake	WI		
Wildlife Refuge / Wildlife Reserve	WR		

The table SOC\_DAT contains the human-use number (HUNUM), feature type (TYPE), name of the facility (NAME), contact person (CONTACT), telephone number (PHONE), geographic source (G\_SOURCE), and attribute source (A\_SOURCE), comments regarding the site (COMMENTS), and the owner of the facility (OWNER).

## 2.4. POSITIONAL ACCURACY

### 2.4.1. HORIZONTAL POSITIONAL ACCURACY:

#### 2.4.1.1. HORIZONTAL POSITIONAL ACCURACY REPORT:

The ESI data use USGS 1:24,000 topographic quadrangles as the base map. It is estimated that the ESI has a minimum mapping unit of 50 feet. The biological data sets are developed primarily using regional experts who estimate concentration areas. Unlike shorelines, which maintain relative spatial stability through time, the biological data by nature migrate across the landscape. Therefore, the 1:24,000 USGS quadrangles are used as a base map in gathering the

data, but the data have “fuzzy” boundaries that must be understood when utilizing this information.

## 2.5. LINEAGE

### 2.5.1. SOURCE INFORMATION:

Coverage or theme name: BIRDS and NESTS

#### 2.5.1.1. SOURCE CITATION

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
David Church, Lisa Burns, and Rich Murphy, San Luis Obispo Dept. of Planning and Building	1992	Coastal Resources Inventory, Biological Resource Distributions	Digital map, Hard-copy map, book	Unknown	Varies	Unknown
UC Davis, Dan Anderson, 916/752-3576	1990	Brown Pelican Roosting Areas	Digital, Point	None	Unknown	Unknown
CDF&G	1980	Atlas of California Coastal Marine Resources	Map	Unknown	24,000	1970's
Eric Kauffman, State of California, State Land Commission	1993	Seabird Colonies of the California Coast	Digital, Entity Points	None	24,000	1989-1990
Ecological Consulting, Inc. M.L. Bonnell	1992	Mendocino County-Atlas of Living Marine Resources	Map	Unknown	125,000	1971-1987
Arthur Sowls, Anthony DeGange, Jay Nelson, and Gary Lester	1980	Catalog of California Seabird Colonies	Digital, Entity Points Provided by Calif. State Land Comm., Ted Fukushima (contact), 916- 322-7813	Bureau of Land Management, (USFWS), Report No. FWS/OBS- 80/7	24,000	Unknown
USFWS	1993	Western Snowy Plover Distribution	Map	Unknown	24,000	Unknown

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<b>2.5.1.1.1</b> <b>Originator</b>	<b>2.5.1.1.2</b> <b>Publication Date</b>	<b>2.5.1.1.4</b> <b>Title</b>	<b>2.5.1.1.6</b> <b>Geospatial Data Presentation Form</b>	<b>2.5.1.1.8</b> <b>Publication Information</b>	<b>2.5.1.2</b> <b>Source Scale Denominator</b>	<b>2.5.1.4</b> <b>Source Time Period</b>
A.D. Beccasio, J.S. Isakson, A.E. Redfield, Dames & Moore	1981	Pacific Coast Ecological Inventory - San Luis Obispo, California	Map, a report accompanies the map series	Biological Services Program, USFWS, Slidell, LA Report No. FWS/OBS-81/30, 159 pp.	250,000	Data for map series compiled from many sources 1921-1981
H.R. Carter <i>et al.</i>	1992	Breeding Populations of Seabirds on the Northern California Coast	Book	USFWS, Point Reyes Bird Observatory, and Minerals Management Office	None	1989-1991
S.W. Harris	1991	Northwestern California Birds, Vol. II, Part 2	Book	Unknown	None	1940-1987
BLM and USFWS, prepared by Jones and Stokes Assoc., Sacramento, Calif.	1981	An Ecological Characterization of the Central and Northern California Coastal Region	Book	Unknown	None	Unknown
Morro Coast Audubon Society, Inc.	1985	The Birds of San Luis Obispo County, California	Book	Unknown	None	Unknown
Center for Marine Studies	1983	Marine Mammals and Seabirds of Central and Northern California	Book	Study prepared for MMS	None	1980-1983
William S. Leet, Christopher Dewees, and Charles Haugen	1992	California Living Marine Resources and Their Utilization	Book	Unknown	None	Unknown

<b>2.5.1.1.1 Originator</b>	<b>2.5.1.1.2 Publication Date</b>	<b>2.5.1.1.4 Title</b>	<b>2.5.1.1.6 Geospatial Data Presentation Form</b>	<b>2.5.1.1.8 Publication Information</b>	<b>2.5.1.2 Source Scale Denominator</b>	<b>2.5.1.4 Source Time Period</b>
CDF&G, Natural Heritage Division	1993	State and Federal Endangered and Threatened Animals of California	Book	Unknown	None	1993
David Zeiner	1990	California's Wildlife: Vol. 2. Birds	Book	Unknown	None	1980's
Sarah Allen, National Park Service	None	Natural History Information on the State of California	Personal Knowledge	None	None	1994
Paul Kelly, CDF&G - Office of Oil Spill Prevention and Response	None	Natural History Information on Seabirds, Shorebirds, and Waterfowl	Personal Knowledge	None	None	1994
Terry Palmisno, CDF&G	None	Inlands, Wetlands, and Riparian	Personal Knowledge	None	None	1994
Tom Eddell, Morro Coast Audubon Society, 805/995-1691	None	Birds of San Luis Obispo County, Distributions and Densities	Personal Knowledge	None	None	1994
Bruce Elliott, CDF&G, Wildlife Division, 408/649-2890	None	Locations of Bird Rookeries & Sensitive Nesting Sites	Personal Knowledge	None	None	1994

CENTRAL CALIFORNIA METADATA

**2.5.1. SOURCE INFORMATION:**

Coverage or theme name: FISH

**2.5.1.1. SOURCE CITATION**

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
David Church, Lisa Burns, and Rich Murphy, San Luis Obispo Dept. Planning and Building	1992	Coastal Resources Inventory, Biological Resource Distributions	Digital map, Hard-copy map, book	Unknown	Varies	Unknown
Bob Tasto, CDF&G-Environmental Services Division	1977	Environmental Impacts on Herring, Bivalves, and Commercial Fisheries	Map	California Coastal Commission	24,000	Unknown
CDF&G	1980	Atlas of California Coastal Marine Resources	Map	Unknown	24,000	1970s
Ecological Consulting, Inc. M.L. Bonnell	1992	Mendocino County-Atlas of Living Marine Resources	Map	Unknown	125,000	1971-1987
A.D. Beccasio, J.S. Isakson, and A.E. Redfield, Dames & Moore	1981	Pacific Coast Ecological Inventory - San Luis Obispo, California	Map, a report accompanies the map series	Biological Services Program, USFWS Slidell, LA Report No. FWS/OBS-81/30, 159 pp.	250,000	Data for map series compiled from many sources 1921-1981.
W.S. Leet, C.M. Dewees, and C.W. Haugen (Eds.)	1992	California's Living Marine Resources and Their Utilization	Book	Unknown	None	Unknown
BLM and USFWS, prepared by Jones and Stokes Assoc., Sacramento, Calif.	1981	An Ecological Characterization of the Central and Northern California Coastal Region	Book	Unknown	None	Unknown

## CENTRAL CALIFORNIA METADATA

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Robert G. Titus, Report to CDF&G	1992	Status of California Steelhead in Coastal Drainages South of San Francisco Bay	Book	Unknown	None	1991
Peter Moyle, Jack Williams, and Eric Wikramanayake	1989	Fish Species of Special Concern of California	Book	Unknown	None	Unknown
William S. Leet, Christopher Dewees, and Charles Haugen	1992	California Living Marine Resources and Their Utilization	Book	Unknown	None	Unknown
CDF&G - Natural Heritage Division	1993	State and Federal Endangered and Threatened Animals of California	Book	Unknown	None	Unknown
R.L. Emmett, S.L. Stone, S.A. Hintor, and M.E. Monaco	1991	Distribution and Abundance of Fishes and Invertebrates in West Coast Estuaries - Volume II: Species Life History Summaries	Book	ELMR Rep. No. 8, NOAA/NOS Strategic Environmental Assessments Division, Rockville, MD 329 pp.	None	Info compiled from historical and current literature and expert personal comm. and knowledge
Diane Watters, CDF&G	None	Status and Location in San Francisco Bay of Herring	Personal Knowledge	None	None	1994
Bill Cox, CDF&G-Inland Fisheries Division	None	Distribution, Abundance, Species, and Activity of Streams	Personal Knowledge	None	None	1994

CENTRAL CALIFORNIA METADATA

<b>2.5.1.1.1 Originator</b>	<b>2.5.1.1.2 Publication Date</b>	<b>2.5.1.1.4 Title</b>	<b>2.5.1.1.6 Geospatial Data Presentation Form</b>	<b>2.5.1.1.8 Publication Information</b>	<b>2.5.1.2 Source Scale Denominator</b>	<b>2.5.1.4 Source Time Period</b>
Ken Oda, CDF&G-Marine Resource Division	None	Distribution and Abundance of Smelt and Herring	Personal Knowledge	None	None	1994
Jim Hardwick, CDF&G-Office of Oil Spill Prevention and Response	None	Squid, Herring, and Rockfish	Personal Knowledge	None	None	1994
Weldon Jones, CDF&G-Inland Fisheries Division	None	Distribution, Abundance, Species, and Activity of Streams	Personal Knowledge	None	None	1994
Tom Moore, CDF&G-Marine Resources Division, 707/875-2521	None	Abundance and Distribution of Herring	Personal Knowledge	None	None	1994
Dave Thomas, CDF&G	None	Status and Life History of Rockfish	Personal Knowledge	None	None	1994
Sandy Owen, CDF&G, 805/772-3011	None	Fisheries, Local Knowledge	Personal Knowledge	None	None	1994
Bob Hardy, CDF&G, 805/772-3011	None	Fisheries and Marine Resources in San Luis Obispo Co.	Personal Knowledge	None	None	1994
Susan McBride, Calif. Sea Grant, 707/443-8369	None	Locations of Commercial Species	Personal Knowledge	None	None	1994
Karen Worcester, Regional Water Quality Control Board, 805/549-3333	None	Fishes (esp. tidewater goby) Within San Luis Obispo Co. Creeks and Morro Bay	Personal Knowledge	None	None	1994
David Ven Tresca, CDF&G-Marine Resources Division, 408/649-2881	None	Marine Fisheries, Rockfishes	Personal Knowledge	None	None	1994

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Jennifer Nelson, CDF&G, Fisheries Division, 408/649-7153	None	Spawning Streams for Steelhead Trout and Salmon spp.	Personal Knowledge	None	None	1994

**2.5.1. SOURCE INFORMATION:**

Coverage or theme name: HABITATS

**2.5.1.1. SOURCE CITATION**

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
David Church, Lisa Burns, and Rich Murphy, San Luis Obispo Dept. Planning and Building	1992	Coastal Resources Inventory, Biological Resource Distributions	Digital map, Hard-copy map, book	Unknown	Varies	Unknown
A.D. Beccasio, J.S. Isakson, and A.E. Redfield, Dames & Moore	1981	Pacific Coast Ecological Inventory - San Luis Obispo, California	Map, a report accompanies the map series	Biological Services Program, USFWS Slidell, LA, Report No. FWS/OBS-81/30, 159 pp.	250,000	Data for map series compiled from many sources 1921-1981
William S. Leet, Christopher Dewees, and Charles Haugen	1992	California Living Marine Resources and Their Utilization	Book	Unknown	None	Unknown
Tom Moore, CDF&G-Marine Resources Division	None	Abundance and Distribution of Eelgrass	Personal Knowledge	None	None	1994
Deborah Hillyard, CDF&G	None	Species and Location in Monterey County and Santa Cruz County	Personal Knowledge	None	None	1994

**2.5.1. SOURCE INFORMATION:**

Coverage or theme name: INDEX

**2.5.1.1. SOURCE CITATION**

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Research Planning, Inc.		Map Index	Complex polygons	NOAA	24000	1998

**2.5.1. SOURCE INFORMATION:**

Coverage or theme name: INVERT

**2.5.1.1. SOURCE CITATION**

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
David Church, Lisa Burns, and Rich Murphy, San Luis Obispo Dept. Planning and Building	1992	Coastal Resources Inventory, Biological Resource Distributions	Digital, Hardcopy map, book	Unknown	Varies	Unknown
CDF&G	1980	Atlas of California Coastal Marine Resources	Map	Unknown	24,000	1970's
Ecological Consulting, Inc., M.L. Bonnell	1992	Mendocino County-Atlas of Living Marine Resources	Map	Unknown	125,000	1971-1987
A.D. Beccasio, J.S. Isakson, and A.E. Redfield, Dames & Moore	1981	Pacific Coast Ecological Inventory - San Luis Obispo, California	Map, a report accompanies the map series	Biological Services Program, USFWS Slidell, LA, Report No. FWS/OBS- 81/30, 159 pp.	250,000	Data for map series compiled from many sources 1921-1981.

<b>2.5.1.1.1 Originator</b>	<b>2.5.1.1.2 Publication Date</b>	<b>2.5.1.1.4 Title</b>	<b>2.5.1.1.6 Geospatial Data Presentation Form</b>	<b>2.5.1.1.8 Publication Information</b>	<b>2.5.1.2 Source Scale Denominator</b>	<b>2.5.1.4 Source Time Period</b>
BLM and USFWS, prepared by Jones and Stokes Assoc., Sacramento, Calif.	1981	An Ecological Characterization of the Central and Northern California Coastal Region	Book	Unknown	None	Unknown
William S. Leet, Christopher Dewees, and Charles Haugen	1992	California Living Marine Resources and Their Utilization	Book	Unknown	None	Unknown
R.L. Emmett, S.L. Stone, S.A. Hintor, and M.E. Monaco	1991	Distribution and Abundance of Fishes and Invertebrates in West Coast Estuaries - Volume II: Species Life History Summaries	Book	ELMR Rept. No. 8, NOAA/NOS Strategic Environmental Assessments Division, Rockville, MD, 329 pp.	None	Info compiled from the historical and current literature and expert personal comm. and knowledge
Tom Moore, CDF&G-Marine Resources Division	None	Abundance and Distribution of Bivalves	Personal Knowledge	None	None	1994
Frank Henry, CDF&G	None	Gastropods and Echinoderms	Personal Knowledge	None	None	1994
Sandy Owen, CDF&G, 805/772-3011	None	Pismo Clams	Personal Knowledge	None	None	1994
Jerry Spratt, CDF&G, Marine Division, 408/649-2880	None	Bivalves, Gastropods, and Marine Invertebrates	Personal Knowledge	None	None	1994
Deborah Hillyard, CDF&G	Unknown	Species and Location in Monterey County and Santa Cruz County	Personal Knowledge	None	None	1994

CENTRAL CALIFORNIA METADATA

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Susan McBride, Calif. Sea Grant, 707/443-8369	None	Commercial Fisheries, Locations by Species	Personal Knowledge	None	None	1994

**2.5.1. SOURCE INFORMATION:**

Coverage or theme name: M\_MAMMALS

**2.5.1.1. SOURCE CITATION**

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
David Church, Lisa Burns, and Rich Murphy, San Luis Obispo Dept. of Planning and Building	1992	Coastal Resources Inventory, Biological Resource Distributions	Digital map, Hard-copy map, book	Unknown	Varies	Unknown
UC Davis, Dan Anderson, 916/752-3576	1991	Sea Otter Sightings by Aerial Survey	Digital, Point	None	Unknown	1990
CDF&G	1980	Atlas of California Coastal Marine Resources	Map	Unknown	24,000	1970's
Ecological Consulting, Inc., M.L. Bonnell	1992	Mendocino County-Atlas of Living Marine Resources	Map	Unknown	125,000	1971-1987
A.D. Beccasio, J.S. Isakson, and A.E. Redfield, Dames & Moore	1981	Pacific Coast Ecological Inventory - San Luis Obispo, California	Map, a report accompanies the map series	Biological Services Program, USFWS Slidell, LA, Report No. FWS/OBS- 81/30, 159 pp.	250,000	Data for map series compiled from many sources 1921-1981
Center for Marine Studies	1983	Marine Mammals and Seabirds of Central and Northern California	Book	Study prepared for MMS	None	1980-1983

CENTRAL CALIFORNIA METADATA

<b>2.5.1.1.1 Originator</b>	<b>2.5.1.1.2 Publication Date</b>	<b>2.5.1.1.4 Title</b>	<b>2.5.1.1.6 Geospatial Data Presentation Form</b>	<b>2.5.1.1.8 Publication Information</b>	<b>2.5.1.2 Source Scale Denominator</b>	<b>2.5.1.4 Source Time Period</b>
William S. Leet, Christopher Deweese, and Charles Haugen	1992	California Living Marine Resources and Their Utilization	Book	Unknown	None	Unknown
David Zeiner	1990	California's Wildlife: Vol. 3. Mammals	Book	Unknown	None	1980's
Doyle Hanan, CDF&G-Marine Resources Division	None	Distribution, Life History, and Abun- dance of Harbor Seals and Pinnipeds	Personal Knowledge	None	None	1994
Jack Ames, CDF&G-Office of Oil Spill Prevention and Response, 408/649-2893	None	Distribution, Abundance, and Life History of Sea Otters	Personal Knowledge	None	None	1994
Terry Palmisno, CDF&G	None	Inland, Wetlands, and Riprarian	Personal Knowledge	None	None	1994
Dr. Aryan Roest, Calif. Polytechnic State University, 805/528-4404	None	Marine Mammals- Distribution Within San Luis Obispo County	Personal Knowledge	None	None	1994
Brian Hatfield, USFWS, 805/927-3893	None	Sea Otters, Elephant Seals and Other Marine Mammal Densities and Distributions	Personal Knowledge	None	None	1994
Fred Wendell, CDF&G, 805/772-1714	None	Sea Otters	Personal Knowledge	None	None	1994

**2.5.1. SOURCE INFORMATION:**

Coverage or theme name: REPTILES

**2.5.1.1. SOURCE CITATION**

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Ed Ueber, Gulf of the Farallones National Marine Sanctuary	None	Sanctuary Management	Personal Knowledge	None	None	1994

**2.5.1. SOURCE INFORMATION:**

Coverage or theme name: SOCECON

**2.5.1.1. SOURCE CITATION**

2.5.1.1.1 Originator	2.5.1.1.2 Publication Date	2.5.1.1.4 Title	2.5.1.1.6 Geospatial Data Presentation Form	2.5.1.1.8 Publication Information	2.5.1.2 Source Scale Denominator	2.5.1.4 Source Time Period
Bob Tasto, CDF&G-Environmental Services Division	1977	Environmental Impacts on Herring, Bivalves, and Commercial Fisheries	Map	Unknown	24,000	Unknown
State Water Resources Control Board	1976	Areas of Special Biological Significance	Map	Unknown	2-5" = 1 mile	Unknown
Emil Smith and Thom Johnson	1974	The Marine Life Refuges and Reserves of California	Map	Unknown	1" = 2 miles	Unknown
California Coastal Commission	1987	California Coastal Resource Guide	Book	Unknown	None	1980s
California Coastal Commission	1991	California Coastal Access Guide	Book	unknown	None	1980s
Rob Collins, CDF&G-Marine Resources Division	1993	State Aquaculture Leases	Book	Unknown	None	Unknown

CENTRAL CALIFORNIA METADATA

<b>2.5.1.1.1 Originator</b>	<b>2.5.1.1.2 Publication Date</b>	<b>2.5.1.1.4 Title</b>	<b>2.5.1.1.6 Geospatial Data Presentation Form</b>	<b>2.5.1.1.8 Publication Information</b>	<b>2.5.1.2 Source Scale Denominator</b>	<b>2.5.1.4 Source Time Period</b>
Karen Worcester, Regional Water Quality Control Board, 805/549-3333	None	Fisheries Within San Luis Obispo creeks & Morro Bay	Personal Knowledge	None	None	1994
Bob Hardy, CDF&G, 805/772-3011	None	Fisheries and Marine Resources in San Luis Obispo Co.	Personal Knowledge	None	None	1994
Mickey Burke, Tribal Member, 707/487-7055	None	Location and Species of Native American and Subsistence Fishing Areas	Personal Knowledge	None	None	1994
Ted Kuipen, Kuipen Mariculture, 707/822-9057	None	Locations Off-the-ground Culture of Commercial Oyster Aquaculture	Personal Knowledge	None	None	1994
Susan McBride, Calif. Sea Grant, 707/443-8369	None	Commercial Fisheries, Locations by Species	Personal Knowledge	None	None	1994
Craig Codd, Coast Oyster, 707/442-2974	None	Locations On-the-ground Culture of Commercial Oyster Aquaculture	Personal Knowledge	None	None	1994
David Ven Tresca, CDF&G,-Marine Resources Division, 408/649-2881	None	Marine Fisheries and Resources, Locations of Ecological Reserves	Personal Knowledge	None	None	1994
Jerry Spratt, CDF&G, Marine Division, 408/649-2880	None	Centers of Sport, Commercial, and Commercial Sport Fishing Activity	Personal Knowledge	None	None	1994

**2.5.2. PROCESS STEP:**

**2.5.2.1. PROCESS DESCRIPTION:**

The digitization of shoreline types, biological resources, and human-use resources is a complex and highly quality-controlled process. In order to facilitate digitizing, the entire study area is split into individual quadrangles using the INDEX data layer. The first layer of information digitized is the ESI shoreline classification. Upon completion of digitization, the data are checked for completeness and topological and logical consistency, and are then plotted and checked by the overflight/field specialists. Any errors in the shoreline classification are updated prior to digitization of the biological and socioeconomic layers. All data use the shoreline as the geographic reference so that there are no slivers in the geographic layers. The biological information is compiled onto 1:24,000 USGS topographic quadrangles by an in-house biological and GIS expert using the data from regional specialists in the form of maps, tables, charts, and written descriptions of wildlife distributions. The data are digitized, checked using both digital and on-screen procedures, plotted, and sent out for review by the regional specialists. The edited maps are updated on the computer, checked once again, and plotted at final map scale. A team of specialists reviews the entire series of maps, checks all data, and makes final edits. The data are merged to form the study-wide layers that are described in this document. The data merging includes a final quality control check where topological consistency, rules for geography, and database to geography are checked and reported to the GIS manager.

**2.5.2.3. PROCESS DATE:**

199409

**2.5.2.6. PROCESS CONTACT**

**2.5.2.6.1. CONTACT PERSON PRIMARY**

**2.5.2.6.1.1. CONTACT PERSON:**

Jill Petersen

- 2.5.2.6.1.2. CONTACT ORGANIZATION:**  
NOAA, Office of Response and  
Restoration
- 2.5.2.6.3. CONTACT POSITION:**  
GIS Manager
- 2.5.2.6.4. CONTACT ADDRESS**
  - 2.5.2.6.4.1. ADDRESS TYPE:**  
Physical Address
  - 2.5.2.6.4.2. ADDRESS:**  
7600 Sand Point Way N.E.
  - 2.5.2.6.4.3. CITY:**  
Seattle
  - 2.5.2.6.4.4. STATE OR PROVINCE:**  
W A
  - 2.5.2.6.4.5. POSTAL CODE:**  
98115-6349
- 2.5.2.6.5. CONTACT VOICE TELEPHONE:**  
(206) 526-6944
- 2.5.2.6.7. CONTACT FACSIMILE TELEPHONE:**  
(206) 526-6329
- 2.5.2.6.8. CONTACT ELECTRONIC MAIL ADDRESS:**  
[jill\\_petersen@hazmat.noaa.gov.us](mailto:jill_petersen@hazmat.noaa.gov.us)

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### **3.0. SPATIAL DATA ORGANIZATION INFORMATION**

#### **3.2. DIRECT SPATIAL REFERENCE METHOD:**

Vector

#### **3.3. POINT AND VECTOR OBJECT INFORMATION**

##### **3.3.1. SDTS TERMS DESCRIPTION:**

**3.3.1.1. SDTS POINT AND VECTOR OBJECT TYPE, and**

**3.3.1.2. POINT AND VECTOR OBJECT COUNT:**

Theme	Universe Polygon	GT-Polygons	Area Points	Complete Chains	Line Segments	Label Points	Entity Points	Nodes
BIRDS	1	194	194	379	46,178			306
ESI	1	332	332	2,550	110,780			2,505
FISH	1	2,100	2,100	2,286	89,812			2,241
HABITATS	1	2,617	2,617	2,866	85,263			2,812
HYDRO	1	5,624	5,624	6,938	261,356	1,322		6,740
INDEX	1	41	41	186	195			147
INVERT	1	2,162	2,162	2,331	90,030			2,288
M_MAMMAL	1	308	308	663	93,122			553
NESTS							138	
REPTILES	1	4	4	4	305			4
SOCECON				223	14,067		458	6,486

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## **4.0. SPATIAL REFERENCE INFORMATION**

### **4.1. HORIZONTAL COORDINATE SYSTEM DEFINITION**

#### **4.1.1. GEOGRAPHIC**

##### **4.1.1.1. LATITUDE RESOLUTION:**

0.00005

##### **4.1.1.2. LONGITUDE RESOLUTION:**

0.00005

##### **4.1.1.3. GEOGRAPHIC COORDINATE UNITS:**

Decimal Degrees

#### **4.1.4. GEODETIC MODEL**

##### **4.1.4.1. HORIZONTAL DATUM NAME:**

North American Datum of 1927

##### **4.1.4.2. ELLIPSOID NAME:**

Clarke, 1866

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## 5.0. ENTITY AND ATTRIBUTE INFORMATION

### 5.1. DETAILED DESCRIPTION: BIO\_LUT

Lookup table to link biology data layers to the BIORES data table.

#### 5.1.1. ENTITY TYPES:

##### 5.1.1.1. ENTITY TYPE LABEL:

##### 5.1.1.2. ENTITY TYPE DEFINITION:

<u>Attributes</u>	integer	RARNUM
	integer	ID

#### 5.1.2. ATTRIBUTES:

##### 5.1.2.1. ATTRIBUTE LABEL:

RARNUM

##### 5.1.2.2. ATTRIBUTE DEFINITION:

An identifier that links the BIO\_LUT table to the BIORES table

##### 5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

##### 5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

##### 5.1.2.1. ATTRIBUTE LABEL:

ID

##### 5.1.2.2. ATTRIBUTE DEFINITION:

An identifier that links the biology coverages to the BIO\_LUT table

##### 5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

##### 5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

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## 5.1. DETAILED DESCRIPTION: BIOFILE

The data table BIOFILE is a flat file format that provides all of the biology attributes contained in the relational data tables when used in conjunction with the supplementary tables BREED\_DT and EXPERTS

### 5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>Attributes</u>	
ELEMENT	character
SUBELEMENT	character
NAME	character
GEN_SPEC	character
S_F	character
T_E	character
NHP	character
DATE_PUB	integer
CONC	character
JAN	character
FEB	character
MAR	character
APR	character
MAY	character
JUN	character
JUL	character
AUG	character
SEP	character
OCT	character
NOV	character
DEC	character
BREED1	character
BREED2	character
BREED3	character
BREED4	character
RARNUM	integer
G_SOURCE	integer
S_SOURCE	integer
BREED	integer

**5.1.2. ATTRIBUTES:****5.1.2.1. ATTRIBUTE LABEL:**

ELEMENT

**5.1.2.2. ATTRIBUTE DEFINITION:**

Major categories of biological data

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

BIRD	Birds
FISH	Fish
HABITAT	Habitats and Rare Plants
INVERT	Invertebrates
M_MAMMAL	Marine Mammals
REPTILE	Reptiles and Amphibians

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

SUBELEMENT

**5.1.2.2. ATTRIBUTE DEFINITION:**

Species subgroup

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

abalone
alcid
anadromous
beach_sp
cephalopod
clam
crab
diving
dolphin
echinoderm
gull_tern

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

kelp\_sp  
lobster  
mussel  
oyster  
pelagic  
raptor  
sav  
scallop  
sea\_lion  
sea\_otter  
seal  
shorebird  
shrimp  
shrub  
special  
turtle  
wading  
waterfowl  
whale

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE**

**DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

NAME

**5.1.2.2. ATTRIBUTE DEFINITION:**

Species common name

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

Abalone  
American avocet  
American coot  
Ashy storm-petrel  
Bald eagle  
Bay ghost shrimp  
Beach layia

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

Black abalone  
Black brant  
Black oystercatcher  
Black rail  
Black scoter (common)  
Black turnstone  
Black-bellied plover  
Black-crowned night heron  
Black-necked stilt  
Blue whale  
Bottlenose dolphin  
Brandts cormorant  
Brown pelican  
Bufflehead  
Bull kelp  
California black rail  
California grunion  
California halibut  
California least tern  
California mussel  
California sea lion  
California spiny lobster  
Canvasback  
Caspian tern  
Cassins auklet  
Chinook salmon (king)  
Clapper rail  
Clover lupine  
C-O sole  
Coastal dunes milkvetch  
Coho salmon (silver)  
Common loon  
Common murre  
Common Pacific littleneck clam  
Cormorant  
Dalls porpoise  
Double-crested cormorant  
Dungeness crab  
Eared grebe  
Eelgrass  
Fin whale

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

Forsters tern  
Gaper clam  
Geoduck  
Giant kelp  
Gray whale  
Great blue heron  
Great egret  
Greater scaup  
Greater yellowlegs  
Green-winged teal  
Guadalupe fur seal  
Gulls  
Harbor porpoise  
Harbor seal  
Harlequin duck  
Heermanns gull  
Horned grebe  
Humpback whale  
Jacksmelt  
Leachs storm-petrel  
Least tern  
Leatherback sea turtle  
Lesser scaup  
Lingcod  
Marbled godwit  
Marbled murrelet  
Menzies wallflower  
Minke whale  
Night smelt  
Northern (Steller) sea lion  
Northern anchovy  
Northern elephant seal  
Northern fur seal  
Northern harrier  
Northern phalarope  
Northern right-whale dolphin  
Northern shoveler  
Osprey  
Pacific halibut  
Pacific herring  
Pacific oyster

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

Pacific razor clam  
Pacific white-sided dolphin  
Pelagic cormorant  
Peregrine falcon  
Pied-billed grebe  
Pigeon guillemot  
Pink abalone  
Pink-footed shearwater  
Pintail  
Pismo clam  
Prickly sculpin  
Rainbow trout (steelhead)  
Raptors  
Red abalone  
Red phalarope  
Red sea urchin  
Red-breasted merganser  
Red-necked grebe  
Rhinoceros auklet  
Rissos dolphin  
Rock scallop  
Rockfish  
Ruddy duck  
Salmon sp.  
Salt marsh birds-beak  
Sand (Monterey) gilia  
Sanderling  
Sea otter  
Shearwaters  
Shiner perch  
Shorebirds  
Short-billed dowitcher  
Snowy egret  
Snowy plover  
Sooty shearwater  
Sora rail  
Sperm whale  
Squid  
Starry flounder  
Striped bass  
Surf scoter

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

Surf smelt  
Surfgrass  
Surfperch  
Terns  
Threespine stickleback  
Tidewater goby  
Tufted puffin  
Virginia rail  
Wading birds  
Washington butter clam  
Waterfowl  
Western grebe  
Western gull  
White pelican  
White-winged scoter  
Willet

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE****DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

GEN\_SPEC

**5.1.2.2. ATTRIBUTE DEFINITION:**

Species scientific name

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

Aechmophorus occidentalis  
Anas acuta  
Anas clypeata  
Anas crecca  
Arctocephalus townsendi  
Ardea herodias  
Arenaria melancephala  
Astragalus tener titi  
Atherinopsis californiensis  
Aythya affinis

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

Aythya marila  
Aythya valisineria  
Balaenoptera musculus  
Balaenoptera physalus  
Baleonoptera acutorostrata  
Brachyramphus marmoratus  
Branta bernicla  
Bucephala albeola  
Calidris alba  
Callianassa californiensis  
Callorhinus ursinus  
Cancer magister  
Casmerodius albus  
Catoptrophorus semipalmatus  
Cepphus columba  
Cerorhinca monocerata  
Charadrius alexandrinus  
Circus cyaneus  
Clupea harengus pallasi  
Cordylantus maritimus maritimus  
Cottus asper  
Crassostrea gigas  
Cymatogaster aggregata  
Dermochelys coriacea  
Egretta thula  
Embiotocidae  
Engraulis mordax  
Enhydra lutris  
Erysimum menziesii  
Eschrichtius robustus  
Eucyclogobius newberryi  
Eumetopias jubatus  
Falco peregrinus  
Fulica americana  
Gasterosteus aculeatus  
Gavia immer  
Gilia tenuiflora arenaria  
Grampus griseus  
Haematopus bachmani  
Haliaeetus leucocephalus  
Haliotis corrugata

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

*Haliotis cracherodii*  
*Haliotis rufescens*  
*Haliotis sp.*  
*Himantopus mexicanus*  
*Hinnites multirugosus*  
*Hippoglossus stenolepis*  
*Histrionicus histrionicus*  
*Hypomesus pretiosus*  
*Lagenorhynchus obliquidens*  
*Larus heermanni*  
*Larus occidentalis*  
*Laterallus jamaicensis*  
*Laterallus jamaicensis coturniculus*  
*Layia carnosa*  
*Leuresthes tenuis*  
*Limnodromus griseus*  
*Limosa fedoa*  
*Lissodelphis borealis*  
*Loligo sp.*  
*Lunda cirrhata*  
*Lupinus tidestromii tidestromii*  
*Macrocystis pyrifera*  
*Megaptera novaeangliae*  
*Melanitta deglandi*  
*Melanitta nigra*  
*Melanitta perspicillata*  
*Mergus serrator*  
*Mirounga angustirostris*  
*Morone saxatilis*  
*Mytilus californianus*  
*Nereocystis luetkeana*  
*Nycticorax nycticorax*  
*Oceanodroma homochroa*  
*Oceanodroma leucorhoa*  
*Oncorhynchus kisutch*  
*Oncorhynchus mykiss*  
*Oncorhynchus tshawytscha*  
*Ophiodon elongatus*  
*Oxyura jamaicensis*  
*Pandion haliaetus*  
*Panope generosa*

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

*Panulirus interruptus*  
*Paralichthys californicus*  
*Pelecanus erythrorhynchos*  
*Pelecanus occidentalis*  
*Phalacrocorax auritus*  
*Phalacrocorax pelagicus*  
*Phalacrocorax penicillatus*  
*Phalacrocorax sp.*  
*Phalaropus fulicarius*  
*Phalaropus lobatus*  
*Phoca vitulina*  
*Phocoena phocoena*  
*Phocoenoides dalli dalli*  
*Phyllospadix sp.*  
*Physeter catodon*  
*Platichthys stellatus*  
*Pleuronichthys coenosus*  
*Pluvialis squatarola*  
*Podiceps auritus*  
*Podiceps grisegena*  
*Podiceps nigricollis*  
*Podilymbus podiceps*  
*Porzana carolina*  
*Protothaca staminea*  
*Ptychoramphus aleuticus*  
*Puffinus creatopus*  
*Puffinus griseus*  
*Rallus limicola*  
*Rallus longirostris*  
*Recurvirostra americana*  
*Saxidomus giganteus*  
*Sebastes spp.*  
*Siliqua patula*  
*Spirinchus starksii*  
*Sterna albifrons*  
*Sterna antillarum browni*  
*Sterna caspia*  
*Sterna fosteri*  
*Strongylocentrotus franciscanus*  
*Tivela stultorum*  
*Tresus nuttallii*

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**


---

Tringa melanaleuca  
Tursiops truncatus  
Uria aalge  
Zalophus californianus  
Zostera marina

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE****DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

S\_F

**5.1.2.2. ATTRIBUTE DEFINITION:**

State and Federal status

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**


---

F	Federally listed
S	State listed
S/F	State and Federally listed

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE****DEFINITION SOURCE:**

USFWS, CDFG

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

T\_E

**5.1.2.2. ATTRIBUTE DEFINITION:**

Threatened and endangered status

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

<b>5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:</b>	<b>5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:</b>
E	Endangered
E/E	Endangered on Federal and State lists
T	Threatened
T/T	Threatened on Federal and State lists

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
USFWS, CDFG

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
NHP

**5.1.2.2. ATTRIBUTE DEFINITION:**  
This field is blank because no NHP information was gathered when this atlas was published. The field is included here to maintain consistency with the latest ESI data structure.

<b>5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:</b>	<b>5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:</b>
Not supplied with this atlas	

**5.1.2.1. ATTRIBUTE LABEL:**  
DATE\_PUB

**5.1.2.2. ATTRIBUTE DEFINITION:**  
This field is blank because no NHP information was gathered when this atlas was published. The field is included here to maintain consistency with the latest ESI data structure.

<b>5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:</b>	<b>5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:</b>
Not supplied with this atlas	

**5.1.2.1. ATTRIBUTE LABEL:**

CONC

**5.1.2.2. ATTRIBUTE DEFINITION:**

Relative or actual count of a species concentration at a specific location. Field is blank if no data are available

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE****DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

JAN

**5.1.2.2. ATTRIBUTE DEFINITION:**

Present in January

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

X

Present

Not Present

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE****DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

FEB

**5.1.2.2. ATTRIBUTE DEFINITION:**

Present in February

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

---

X

Present

Not Present

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**

MAR

**5.1.2.2. ATTRIBUTE DEFINITION:**  
Present in March

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

---

X

Present

Not Present

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**

APR

**5.1.2.2. ATTRIBUTE DEFINITION:**  
Present in April

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

X

Present

Not Present

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

MAY

**5.1.2.2. ATTRIBUTE DEFINITION:**

Present in May

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

X

Present

Not Present

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

JUN

**5.1.2.2. ATTRIBUTE DEFINITION:**

Present in June

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

X

Present

Not Present

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**

JUL

**5.1.2.2. ATTRIBUTE DEFINITION:**  
Present in July

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

X

Present

Not Present

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**

AUG

**5.1.2.2. ATTRIBUTE DEFINITION:**  
Present in August

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

X

Present

Not Present

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

SEP

**5.1.2.2. ATTRIBUTE DEFINITION:**

Present in September

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

X

Present

Not Present

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

OCT

**5.1.2.2. ATTRIBUTE DEFINITION:**

Present in October

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

X

Present

Not Present

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

NOV

**5.1.2.2. ATTRIBUTE DEFINITION:**

Present in November

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

X

Present

Not Present

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

DEC

**5.1.2.2. ATTRIBUTE DEFINITION:**

Present in December

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

X

Present

Not Present

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

BREED1

**5.1.2.2. ATTRIBUTE DEFINITION:**

Species' breeding or life stage textual summary where:  
 if ELEMENT = BIRD then BREED1 = nesting;  
 if ELEMENT = FISH then BREED1 = spawning;  
 if ELEMENT = INVERT then BREED1 = mating;  
 if ELEMENT = REPTILE then BREED1 = nesting;  
 if ELEMENT = M\_MAMMAL then BREED1 = mating

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

NOAA

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

JUL-DEC

3 character abbreviation of start and end month of breed1 activities

-

Not Occurring

N/A

No breed1 activities for this element

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
NOAA**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

BREED2

**5.1.2.2. ATTRIBUTE DEFINITION:**

Species' breeding or life stage textual summary where:

if ELEMENT = BIRD then BREED2 = laying;

if ELEMENT = FISH then BREED2 = outmigration;

if ELEMENT = INVERT then BREED2 = spawning;

if ELEMENT = REPTILE then BREED2 = hatching;

if ELEMENT = M\_MAMMAL then BREED2 = calving

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

NOAA

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

JUL-DEC

3 character abbreviation of start and end month of breed2 activities

-

Not Occurring

N/A

No breed2 activities for this element

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

BREED3

**5.1.2.2. ATTRIBUTE DEFINITION:**

Species' breeding or life stage textual summary where:

if ELEMENT = BIRD then BREED3 = hatching;

if ELEMENT = M\_MAMMAL then BREED3 = pupping

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

NOAA

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

JUL-DEC

3 character abbreviation of start and end month of breed3 activities

-

Not Occurring

N/A

No breed3 activities for this element

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:  
NOAA**

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
BREED4

**5.1.2.2. ATTRIBUTE DEFINITION:**  
Species' breeding or life stage textual summary where:  
if ELEMENT = BIRD then BREED4 = fledging;

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
NOAA

**5.1.2.4.1.1. ENUMERATED  
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN  
VALUE DEFINITION:**

JUL-DEC	3 character abbreviation of start and end month of breed4 activities
-	Not Occurring
N/A	No breed4 activities for this element

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:  
NOAA**

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
RARNUM

**5.1.2.2. ATTRIBUTE DEFINITION:**  
An identifier that links directly back to the biological data layers or to the BIO\_LUT lookup table

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
G\_SOURCE

**5.1.2.2. ATTRIBUTE DEFINITION:**

A link to EXPERT\_ID in the supplementary data table EXPERTS. Formerly called EXPERT\_ID. Item name has been changed to G\_SOURCE to maintain consistency with the latest ESI data structure.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

---

1-N

Unique number

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

S\_SOURCE

**5.1.2.2. ATTRIBUTE DEFINITION:**

A duplicate link to EXPERT\_ID in the supplementary data table EXPERTS. The S\_SOURCE field has been added to maintain consistency with the latest ESI data structure.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

---

1-N

Unique number

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

BREED

**5.1.2.2. ATTRIBUTE DEFINITION:**

Breed identifier that links to the flat file's supplementary data table BREED\_DT that allows searches of breeding activities by month.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

NOAA

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

1-N

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

Unique number

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
NOAA**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

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## 5.1. DETAILED DESCRIPTION: BIORES

The data table BIORES contains the attributes necessary for linking to several spatial data layers and other data tables.

### 5.1.1. ENTITY TYPES:

#### 5.1.1.1. ENTITY TYPE LABEL:

#### 5.1.1.2. ENTITY TYP6565E DEFINITION:

<u>Attributes</u>		
RARNUM	integer	
SPECIES_ID	integer	
CONC	character	
SEASON_ID	integer	
G_SOURCE	integer	
S_SOURCE	integer	
ELEMENT	character	
EL_SPE	character	
EL_SPE_SEA	character	

### 5.1.2. ATTRIBUTES:

#### 5.1.2.1. ATTRIBUTE LABEL:

RARNUM

#### 5.1.2.2. ATTRIBUTE DEFINITION:

An identifier that links to the BIO\_LUT table and directly back to the biology coverages

#### 5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

#### 5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

#### 5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:

1-N

Unique number

#### 5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

#### 5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

SPECIES\_ID

**5.1.2.2. ATTRIBUTE DEFINITION:**

Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained by NOAA

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

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1-N

Unique number

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

CONC

**5.1.2.2. ATTRIBUTE DEFINITION:**

Relative or actual count of a species concentration at a specific location. Field is blank if no data are available.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

SEASON\_ID

**5.1.2.2. ATTRIBUTE DEFINITION:**

A link from the BIORES table to the seasonality table.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

1-N

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

Unique number

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

G\_SOURCE

**5.1.2.2. ATTRIBUTE DEFINITION:**

A link to EXPERT\_ID in the supplementary data table EXPERTS. Formerly called EXPERT\_ID. Item name has been changed to G\_SOURCE to maintain consistency with the latest ESI data structure.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

1-N

Unique number

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

S\_SOURCE

**5.1.2.2. ATTRIBUTE DEFINITION:**

A duplicate link to EXPERT\_ID in the supplementary data table EXPERTS. The S\_SOURCE field has been added to maintain consistency with the latest ESI data structure.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

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1-N

Unique number

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

ELEMENT

**5.1.2.2. ATTRIBUTE DEFINITION:**

Major categories of biological data

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

---

BIRD

Birds

FISH

Fish

HABITAT

Habitats and Rare Plants

INVERT

Invertebrates

M\_MAMMAL

Marine Mammals

REPTILE

Reptiles and Amphibians

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

EL\_SPE

**5.1.2.2. ATTRIBUTE DEFINITION:**

Concatenation of the first character of the ELEMENT and the SPECIES\_ID that provides a link to the species table.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE**

**DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

EL\_SPE\_SEA

**5.1.2.2. ATTRIBUTE DEFINITION:**

Concatenation of the first character of the ELEMENT, the SPECIES\_ID, and the SEASON\_ID that provides a link to the seasonality table.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE**

**DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

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### 5.1. DETAILED DESCRIPTION: BIRDS

The data layer BIRDS contains the polygons with bird species.

The following BIRDS species are found in the Central California ESI data set:

SPECIES ID	NAME
1	Common loon
4	Red-necked grebe
5	Horned grebe
6	Eared grebe
7	Western grebe
8	Double-crested cormorant
9	Brandt's cormorant
10	Pelagic cormorant
13	Black brant
17	Pintail
18	Green-winged teal
20	Northern shoveler
21	Canvasback
22	Greater scaup
23	Lesser scaup
26	Bufflehead
28	Harlequin duck
29	White-winged scoter
30	Surf scoter
33	Red-breasted merganser
34	American coot
37	Western gull
43	Heermann's gull
46	Common murre
47	Pigeon guillemot
48	Marbled murrelet
49	Cassin's auklet
50	Rhinoceros auklet
51	Tufted puffin
53	Northern phalarope
54	Great blue heron
58	Greater yellowlegs
64	Short-billed dowitcher
67	Sanderling
68	Black oystercatcher
71	Black-bellied plover
74	Black turnstone
76	Bald eagle
77	Osprey
79	Cormorant
85	California least tern

SPECIES ID	NAME
86	Least tern
88	Great egret
89	Snowy egret
90	Black-crowned night heron
96	Leach's storm-petrel
107	Peregrine falcon
118	Brown pelican
125	Clapper rail
136	Caspian tern
139	Snowy plover
141	American avocet
142	Black-necked stilt
144	Ashy storm-petrel
148	Ruddy duck
150	Black rail
155	Willet
160	Red phalarope
173	White pelican
179	Pied-billed grebe
181	Northern harrier
187	Virginia rail
188	Sora rail
197	Black scoter (common)
200	Sooty shearwater
202	Pink-footed shearwater
206	California black rail
210	Marbled godwit
1,001	Gulls
1,002	Shorebirds
1,003	Waterfowl
1,004	Wading birds
1,005	Raptors
1,008	Terns
1,009	Shearwaters

**5.1.1. ENTITY TYPES:****5.1.1.1. ENTITY TYPE  
LABEL:****5.1.1.2. ENTITY TYPE  
DEFINITION:**

<u>GT-Polygons</u>	ID	integer
	RARNUM	integer

**5.1.2. ATTRIBUTES:****5.1.2.1. ATTRIBUTE LABEL:**

ID

**5.1.2.2. ATTRIBUTE DEFINITION:**

A unique identifier that links to the BIO\_LUT table. ID is a concatenation of atlas number (8), element number (1), and record number. ID values of 9999 are holes in polygons and do not contain information.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

NOAA

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**

NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

RARNUM

**5.1.2.2. ATTRIBUTE DEFINITION:**

An identifier that links directly to the BIORES table or the flat format BIOFILE table

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

NOAA

**5.1.2.4.1.1. ENUMERATED  
DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN  
VALUE DEFINITION:**

1-N

Unique number

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**

NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

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## **5.1. DETAILED DESCRIPTION: BREED**

The data table BREED identifies the life stages and abundances, by month, for each species. (There are no breeding activities for the HABITAT element.)

### **5.1.1. ENTITY TYPES:**

<b>5.1.1.1. ENTITY TYPE LABEL:</b>	<b>5.1.1.2. ENTITY TYPE DEFINITION:</b>
<u>Attributes</u>	EL_SPE_SEA character
	MONTH integer
	BREED1 character
	BREED2 character
	BREED3 character
	BREED4 character

### **5.1.2. ATTRIBUTES:**

#### **5.1.2.1. ATTRIBUTE LABEL:**

EL\_SPE\_SEA

#### **5.1.2.2. ATTRIBUTE DEFINITION:**

Concatenation of the first character of the ELEMENT, the SPECIES\_ID, and the SEASON\_ID. Links to BIORES and SEASONAL data tables. If a species has any different monthly presence or breeding activity, a new seasonality record is used to accommodate the variable nature of the species across the study area

#### **5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

#### **5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

Research Planning, Inc.

#### **5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

#### **5.1.2.1. ATTRIBUTE LABEL:**

MONTH

#### **5.1.2.2. ATTRIBUTE DEFINITION:**

Two-digit integer corresponding to the calendar month. Can have up to 12 records to account for each month of the year

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

1	January
2	February
3	March
4	April
5	May
6	June
7	July
8	August
9	September
10	October
11	November
12	December

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

BREED1

**5.1.2.2. ATTRIBUTE DEFINITION:**

Species' breeding or life stage information where:

if EL\_SPE\_SEA contains "B" then BREED1 = nesting;

if EL\_SPE\_SEA contains "F" then BREED1 = spawning;

if EL\_SPE\_SEA contains "I" then BREED1 = mating;

if EL\_SPE\_SEA contains "R" then BREED1 = nesting;

if EL\_SPE\_SEA contains "M" then BREED1 = mating

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

N	Not occurring
Y	Occurring

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
BREED2

**5.1.2.2. ATTRIBUTE DEFINITION:**

Species' breeding or life stage information where:  
 if EL\_SPE\_SEA contains "B" then BREED2 = laying;  
 if EL\_SPE\_SEA contains "F" then BREED2 = outmigration;  
 if EL\_SPE\_SEA contains "I" then BREED2 = spawning;  
 if EL\_SPE\_SEA contains "R" then BREED2 = hatching;  
 if EL\_SPE\_SEA contains "M" then BREED2 = calving

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED  
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN  
VALUE DEFINITION:**

N	Not occurring
Y	Occurring

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
BREED3

**5.1.2.2. ATTRIBUTE DEFINITION:**

Species' breeding or life stage information where:  
 if EL\_SPE\_SEA contains "B" then BREED3 = hatching;  
 if EL\_SPE\_SEA contains "M" then BREED3 = pupping

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

<b>5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:</b>	<b>5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:</b>
N	Not occurring
Y	Occurring
<b>5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:</b>	
Research Planning, Inc.	
<b>5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:</b>	
nominal	
<b>5.1.2.1. ATTRIBUTE LABEL:</b>	
BREED4	
<b>5.1.2.2. ATTRIBUTE DEFINITION:</b>	
Species' breeding or life stage information where: if EL_SPE_SEA contains "B" then BREED4 = fledging;	
<b>5.1.2.3. ATTRIBUTE DEFINITION SOURCE:</b>	
Research Planning, Inc.	
<b>5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:</b>	<b>5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:</b>
N	Not occurring
Y	Occurring
<b>5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:</b>	
Research Planning, Inc.	
<b>5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:</b>	
nominal	

## **5.1. DETAILED DESCRIPTION: BREED\_DT**

The data table BREED \_DT is a supplement to the flat format BIOFILE that allows searches to be conducted for life stage activities by month. This is a condensed version of the BREED table where multiple species of the same element may link to the same BREED\_DT records. (There are no breeding activities for the HABITAT element.)

### **5.1.1. ENTITY TYPES:**

#### **5.1.1.1. ENTITY TYPE LABEL:**

#### **5.1.1.2. ENTITY TYPE DEFINITION:**

<u>Attributes</u>	BREED	integer
	MONTH	integer
	BREED1	character
	BREED2	character
	BREED3	character
	BREED4	character

### **5.1.2. ATTRIBUTES:**

#### **5.1.2.1. ATTRIBUTE LABEL:**

BREED

#### **5.1.2.2. ATTRIBUTE DEFINITION:**

An integer value that links from the BIOFILE to the BREED\_DT table

#### **5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

NOAA

#### **5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

#### **5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

1-N

Unique number

#### **5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

NOAA

#### **5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

MONTH

**5.1.2.2. ATTRIBUTE DEFINITION:**

Two-digit integer corresponding to the calendar month. Each month is listed whether any special life activity is occurring or not.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

NOAA

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

1	January
2	February
3	March
4	April
5	May
6	June
7	July
8	August
9	September
10	October
11	November
12	December

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

BREED1

**5.1.2.2. ATTRIBUTE DEFINITION:**

Species' breeding or life stage information where:

if EL\_SPE\_SEA contains "B" then BREED1 = nesting;  
 if EL\_SPE\_SEA contains "F" then BREED1 = spawning;  
 if EL\_SPE\_SEA contains "I" then BREED1 = mating;  
 if EL\_SPE\_SEA contains "R" then BREED1 = nesting;  
 if EL\_SPE\_SEA contains "M" then BREED1 = mating

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

NOAA

<b>5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:</b>	<b>5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:</b>
N	Not occurring
Y	Occurring
-	No Breed1 activity for this element

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
BREED2

**5.1.2.2. ATTRIBUTE DEFINITION:**  
Species' breeding or life stage information where:  
if EL\_SPE\_SEA contains "B" then BREED2 = laying;  
if EL\_SPE\_SEA contains "F" then BREED2 = outmigration;  
if EL\_SPE\_SEA contains "I" then BREED2 = spawning;  
if EL\_SPE\_SEA contains "R" then BREED2 = hatching;  
if EL\_SPE\_SEA contains "M" then BREED2 = calving

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
NOAA

<b>5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:</b>	<b>5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:</b>
N	Not occurring
Y	Occurring
-	No Breed2 activity for this element

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
BREED3

**5.1.2.2. ATTRIBUTE DEFINITION:**  
Species' breeding or life stage information where:

if EL\_SPE\_SEA contains “B” then BREED3 = hatching;  
 if EL\_SPE\_SEA contains “M” then BREED3 = pupping

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

NOAA

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

N	Not occurring
Y	Occurring
-	No Breed3 activity for this element

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

BREED4

**5.1.2.2. ATTRIBUTE DEFINITION:**

Species' breeding or life stage information where:

if EL\_SPE\_SEA contains “B” then BREED4 = fledging;

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

NOAA

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

N	Not occurring
Y	Occurring
-	No Breed4 activity for this element

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

## 5.1. DETAILED DESCRIPTION: ESI

The data layer ESI contains polygonal (GT-Polygons) and arc (Complete Chains) features for the ESI shoreline classification. The classification of the features is based upon *Guidelines for Developing Digital Environmental Sensitivity Index Atlases and Data-bases* (Michel, J. and J. Dahlin, 1993, Hazardous Materials Response and Assessment Division, NOAA). The ESI classification was performed 20-26 October 1992.

### 5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>Complete Chain</u>	ESI LINE SOURCE_ID ENVIR
<u>GT-Polygons</u>	ESI WATER_CODE

### 5.1.2. ATTRIBUTES:

#### 5.1.2.1. ATTRIBUTE LABEL:

ESI

#### 5.1.2.2. ATTRIBUTE DEFINITION:

The item ESI contains values according to the ESI ranking of the shorelines and polygons. The ESI rankings progress from low to high susceptibility to oil spills. The central California shoreline types are listed below. In many cases, the shorelines are also ranked with multiple codes such as 10/7. The first number is the most landward shoreline type, salt marsh, with exposed tidal flats being the shoreline type closest to the water.

#### 5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
1A	Exposed Rocky Cliffs
1A/3	Exposed Rocky Cliffs/Fine- to Medium-Grained Sand Beaches
1B	Exposed Seawall
1B/3	Exposed Seawalls/Fine- to Medium-Grained Sand Beaches

<b>5.1.2.4.1.1.</b> <b>ENUMERATED DOMAIN VALUE:</b>	<b>5.1.2.4.1.2.</b> <b>ENUMERATED DOMAIN VALUE DEFINITION:</b>
1B/4	Exposed Seawalls/Coarse-Grained Sand to Granule Beaches
1C	Exposed Rocky Cliffs/Boulder Talus Base
2	Wave Cut Rocky Platforms
2/3	Wave Cut Rocky Platforms/Fine- to Medium-Grained Sand Beaches
2/5	Wave Cut Rocky Platforms/Mixed Sand and Gravel Beaches
3	Fine- to Medium-Grained Sand Beaches
3/2	Fine- to Medium-Grained Sand Beaches/Wave Cut Rocky Platforms
3/5	Fine- to Medium-Grained Sand Beaches/Mixed Sand and Gravel Beaches
3/7	Fine- to Medium-Grained Sand Beaches/Exposed Tidal Flats
4	Coarse-Grained Sand to Granule Beaches
4/2	Coarse-Grained Sand to Granule Beaches/Wave Cut Rocky Platforms
4/9	Coarse-Grained Sand to Granule Beaches/Sheltered Tidal Flats
5	Mixed Sand and Gravel Beaches
5/2	Mixed Sand and Gravel Beaches/Wave Cut Rocky Platforms
5/3	Mixed Sand and Gravel Beaches/Fine- to Medium-Grained Sand Beaches
5/8	Mixed Sand and Gravel Beaches/Sheltered Rocky Shores
5/8/9	Mixed Sand and Gravel Beaches/Sheltered Rocky Shores/Sheltered Tidal Flats
5/9	Mixed Sand and Gravel Beaches/Sheltered Tidal Flats
6/9	Gravel Beaches/Sheltered Tidal Flats
6A	Gravel Beaches
6A/2	Gravel Beaches/Wave Cut Rocky Platforms
6A/3	Gravel Beaches/Fine- to Medium-Grained Sand Beaches
6B	Riprap
6B/2	Riprap/Wave Cut Rocky Platforms
6B/3	Riprap/Fine- to Medium-Grained Sand Beaches
6B/3/2	Riprap/Fine- to Medium-Grained Sand Beaches/Wave Cut Rocky Platforms
6B/4	Riprap/Coarse-Grained Sand to Granule Beaches
6B/7	Riprap/Exposed Tidal Flats
7	Exposed Tidal Flats
7/10	Exposed Tidal Flats/Salt Marshes
8	Sheltered Rocky Shores
8/5	Sheltered Rocky Shores/Mixed Sand and Gravel Beaches
8/6	Sheltered Rocky Shores/Riprap

<b>5.1.2.4.1.1.</b> <b>ENUMERATED DOMAIN VALUE:</b>	<b>5.1.2.4.1.2.</b> <b>ENUMERATED DOMAIN VALUE DEFINITION:</b>
8/7	Sheltered Rocky Shores/Exposed Tidal Flats
8/9	Sheltered Rocky Shores/Sheltered Tidal Flats
8B	Sheltered Man-Made Structures
9	Sheltered Tidal Flats
9/10	Sheltered Tidal Flats/Salt Marshes
10	Salt Marsh
10/7	Salt Marsh/Exposed Tidal Flats
10/9	Salt Marsh/Sheltered Tidal Flats

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

ordinal

**5.1.2.1. ATTRIBUTE LABEL:**

LINE

**5.1.2.2. ATTRIBUTE DEFINITION:**

Type of geographic feature

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

<b>5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:</b>	<b>5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:</b>
--	---

F	Flat boundary
H	Hydrography or stream features
M	Marsh boundary
S	Shoreline

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

SOURCE\_ID

**5.1.2.2. ATTRIBUTE DEFINITION:**

Data source for the ESI

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

---

0

Digital

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

Randy Imai, California Department of Fish and Game

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

ENVIR

**5.1.2.2. ATTRIBUTE DEFINITION:**

Regional environment

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

---

E

Estuary

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

WATER\_CODE

**5.1.2.2. ATTRIBUTE DEFINITION:**

Specifies a polygon as either water or land

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

W	Water
L	Land

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:****5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

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## 5.1. DETAILED DESCRIPTION: EXPERTS

The data table EXPERTS contains the primary contacts for resources included in the ESI atlas.

### 5.1.1. ENTITY TYPES:

#### 5.1.1.1. ENTITY TYPE LABEL:

#### 5.1.1.2. ENTITY TYPE DEFINITION:

<u>Attributes</u>		
EXPERT_ID	integer	
NAME	character	
AGENCY	character	
ADDRESS1	character	
ADDRESS2	character	
CITY	character	
STATE	character	
PHONE	character	
BIO_EXPERTISE	character	
GEO_EXPERTISE	character	

### 5.1.2. ATTRIBUTES:

#### 5.1.2.1. ATTRIBUTE LABEL:

EXPERT\_ID

#### 5.1.2.2. ATTRIBUTE DEFINITION:

Expert identifier that links to G\_SOURCE and S\_SOURCE in the BIORES and BIOFILE tables and to G\_SOURCE and A\_SOURCE in the SOC\_DAT table.

#### 5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

#### 5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

#### 5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:

1-N

Unique number

#### 5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

#### 5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

NAME

**5.1.2.2. ATTRIBUTE DEFINITION:**

Primary expert and/or contact for resource

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

Allen, Sarah  
Ames, Jack  
Anderson, Keith  
Baldridge, Alan  
Bell, R.R.  
Breen, Bob  
Colwell, Mark  
Cox, Bill  
Curry, Mike  
DeWald, Jeannine  
Edell, Tom  
Engle, Dr. Jack  
Fish, Allen, or Buzz Hull  
Fletcher, Grant  
Foster, Dr. Michael  
Grantham, Greg  
Gross, Mr. George (Warden)  
Hanan, Doyle  
Hanson, Linda  
Hardwick, James  
Hardy, Bob  
Harvey, Dr. James  
Henry, Frank  
Hillyard, Deborah  
Houck, Jake  
Jackson, Terry  
Kelly, John  
Knight, Jan  
Kopec, Diane  
LeBoeuf, Dr. Burney  
Moore, Tom  
Nelson, Jennifer  
Oda, Ken

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

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Owen, Sandy  
Point Reyes Bird Observatory  
Roust, Aron  
Sasaki, Mr. Ken (Retired)  
Silberstein, Mark  
Spratt, Jerry  
Szczepaniak, Isidore  
Takayama, Mr. Roland (Lieutenant)  
Tasto, Bob  
Thomas, Dave  
Thomas, Terry  
Ueber, Ed  
Watters, Diana  
Woodhouse, Dr. Charles  
Worcester, Karen

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**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

AGENCY

**5.1.2.2. ATTRIBUTE DEFINITION:**

Affiliation of the listed expert

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

Atlas of California coastal marine resources  
Audubon Canyon Ranch  
California Academy of Sciences  
California Department of Fish and Game  
California Polytechnic State Univ. San Luis Obispo  
California State Parks  
College of the Redwoods  
Elkhorn Slough National Estuarine Research Reserve  
Fitzgerald Marine Reserve  
Golden Gate National Recreation Area  
Golden Gate Raptor Observatory  
Humboldt State University  
Monterey Bay National Marine Sanctuary  
Morro Coas Audubon Society  
Moss Landing Marine Labs  
NOAA Gulf of the Farallones National Marine  
Sanctuary

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

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Point Reyes Bird Observatory  
Private  
Regional Water Quality Control Board  
San Francisco Bird Observatory  
Santa Barbara Museum of Natural History  
Stanford University  
U. S. Fish and Wildlife Service  
University of California - Berkeley  
University of California - Santa Barbara  
University of California - Santa Cruz

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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE**

**DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

ADDRESS1

**5.1.2.2. ATTRIBUTE DEFINITION:**

Primary address of the expert

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

1211 Del Mar Drive  
1700 Elkhorn Road  
1720 Ocean Drive  
20 Lower Ragsdale Dr.  
213 Beach Street  
2559 Puesta Del Sol Road  
272 Applied Sciences Building  
2800 Cottage Way  
3141 Highway 128  
330 Golden Shore, Suite 50  
411 Burgess Dr.  
46 8th Street  
4990 Shoreline Highway  
7 Bridge Ct.  
81 Hiquera Street  
Biological Sciences Department  
Bldg. 1056

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

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Bldg. 201  
c/o NMFS  
Cypress Grove Preserve  
Department of Ornithology and Mammology  
Fort Mason  
Hopkins Marine Station  
Marine Science Institute  
Mendocino District Head  
Not Available  
P. O. Box 2113  
P. O. Box 247  
P. O. Box 2498  
P. O. Box 450  
P. O. Box 47  
San Mateo City Park District  
Suite 101  
Wildlife Department

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**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

ADDRESS2

**5.1.2.2. ATTRIBUTE DEFINITION:**

Continuation of first address of expert

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

2560 Golden Pond Rd.  
Building 201  
Ft. Cronkite  
Ft. Mason  
Highway 1  
P. O. Box 217  
P. O. Box 451  
P. O. Box 808  
Room E-1803  
Suite 100  
Suite 200

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**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**

CITY

**5.1.2.2. ATTRIBUTE DEFINITION:**

City of expert's address

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

Alviso  
Arcata  
Calistoga  
Cayucos  
Fairfax  
Fort Bragg  
La Jolla  
Long Beach  
Marshall  
McKinleyville  
Mendocino  
Menlo Park  
Monterey  
Morro Bay  
Moss Beach  
Moss Landing  
Pacific Grove  
Sacramento  
San Francisco  
San Luis Obispo  
Santa Barbara  
Santa Cruz  
Sausalito  
Sebastopol  
Stinson Beach  
Vallejo  
Watsonville  
Yountville

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**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**

STATE

**5.1.2.2. ATTRIBUTE DEFINITION:**

State of expert's address

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

CA

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**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

PHONE

**5.1.2.2. ATTRIBUTE DEFINITION:**

Phone number of expert

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

BIO\_EXPERTISE

**5.1.2.2. ATTRIBUTE DEFINITION:**

Biological expertise of expert

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

abalone, sea urchine  
anadromous fish: salmon and steelhead  
birds  
birds: raptors  
botany  
botany: plants  
cetaceans: harbor porpoise, bottlenose porpoise  
clams, abalone, sea urchines  
coastal marine resources  
fisheries  
fisheries: herring, environmental input analysis  
fisheries: steelhead trout salmon

---

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

groundfish, rockfish  
harbor seals, California sea lions  
harbor seals, shorebirds  
herring  
inland fisheries  
kelp forest ecology: kelp seagrasses  
m mammals  
m mammals, birds  
mammals  
marine mammals  
marine mammals, waterfowl, seabirds, shorebirds  
marine mammals: harbor seals  
marine: squid, herring, clams, rockfish  
naturalist  
naturalist: cetaceans, seabirds  
pinnipeds: elephant seals  
pinnipeds: harbor seals, elephant seals  
pinnipeds; harbor seals  
reserve manager  
resource management specialist  
sanctuary manager  
sea otters  
sea urchins, clams, eel grass, abalone, herring  
smelt herring  
terrestrial birds and mammals  
tidewater goby; black legless lizard; S. F. garter snake  
waterfowl, shorebirds, raptors

---

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

GEO\_EXPERTISE

**5.1.2.2. ATTRIBUTE DEFINITION:**

Geographic extent of expert's expertise

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

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Ano Nuevo  
Bodega; Point Reyes Farallon Islands; Tomales Bay  
California  
Central and Northern California  
Central California  
Central Coast, San Francisco Bay  
Central Coast; Monterey Bay  
Elkhorn Slough  
Farallones and Cordell Bank National Marine  
Sanctuaries  
Golden Gate National Recreation Area  
Marin County  
Mendocino County  
Monterey & Santa Cruz County  
Monterey Bay  
Northern California  
Oregon border south to San Mateo County  
Russian River  
S. F., San Mateo, Santa Cruz, Monterey, San Luis  
Obispo Cnty  
S.F. & San Mateo County  
San Francisco and San Mateo counties  
San Francisco Bay  
San Francisco Bay Central Coast  
San Francisco, San Mateo, Santa Cruz, Monterey  
Counties  
San Francisco, San Mateo, Santa Cruz, Western Santa  
Clara  
San Luis Obispo  
San Luis Obispo County  
San Mateo and San Francisco Counties  
San Mateo County coast  
sanctuary boundaries  
Santa Barbara  
Santa Barbara, Northern Channel Islands  
Santa Barbara, Ventura  
Sonoma and Marin Counties  
State of California  
Tomales Bay

---

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

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## 5.1. DETAILED DESCRIPTION: FISH

The data layer FISH contains the polygons with fish species.

The following FISH species are found in the Central California ESI atlas:

SPECIES ID	NAME
2	Lingcod
7	Pacific halibut
12	Starry flounder
13	C-O sole
56	Shiner perch
66	Pacific herring
67	Northern anchovy
68	Chinook salmon (king)
69	Coho salmon
74	Rainbow trout
75	Surf smelt
83	Salmon sp.
91	Threespine stickleback
104	Striped bass
106	California grunion
193	Jacksmelt
223	Rockfish
224	Surfperch
225	California halibut
226	Tidewater goby
227	Prickly sculpin
228	Night smelt

### 5.1.1. ENTITY TYPES:

#### 5.1.1.1. ENTITY TYPE LABEL:

#### 5.1.1.2. ENTITY TYPE DEFINITION:

<u>GT-Polygons</u>	ID	integer
	RARNUM	integer

### 5.1.2. ATTRIBUTES:

#### 5.1.2.1. ATTRIBUTE LABEL:

ID

#### 5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the BIO\_LUT table. ID is a concatenation of atlas number (8), element number (2), and record number. ID values of 9999 are holes in polygons and do not contain information.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
NOAA

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
RARNUM

**5.1.2.2. ATTRIBUTE DEFINITION:**

An identifier that links directly to the BIORES table or the flat format BIOFILE table

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
NOAA

**5.1.2.4.1.1. ENUMERATED  
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN  
VALUE DEFINITION:**

---

1-N	Unique number
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---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

## 5.1. DETAILED DESCRIPTION: HABITATS (formerly PLANTS)

The data layer HABITATS contains the polygons with plant species.

The following HABITATS species are found in the Central California ESI atlas:

SPECIES ID	NAME
1	Eelgrass
2	Bull kelp
3	Menzies wallflower
4	Beach layia
5	Salt marsh bird's-beak
7	Surfgrass
8	Clover lupine
9	Giant kelp
10	Coastal dunes milkvetch
11	Sand (Monterey) gilia

### 5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>GT-Polygons</u>	ID integer
	RARNUM integer

### 5.1.2. ATTRIBUTES:

#### 5.1.2.1. ATTRIBUTE LABEL:

ID

#### 5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the BIO\_LUT table. ID is a concatenation of atlas number (8), element number (3), and record number. ID values of 9999 are holes in polygons and do not contain information.

#### 5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

#### 5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

NOAA

#### 5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

RARNUM

**5.1.2.2. ATTRIBUTE DEFINITION:**

An identifier that links directly to the BIORES table or the flat format BIOFILE table

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

NOAA

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

1-N

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

Unique number

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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

## 5.1. DETAILED DESCRIPTION: HYDRO

The data layer HYDRO contains polygonal water and land features, as well as linear features for rivers/streams that are tidally influenced. This layer was created using the digital shoreline provided by the California State Land Office.

### 5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>GT-Polygons</u>	WATER_CODE character
<u>Complete Chains</u>	LINE character
	SOURCE_ID integer

The WATER\_CODE and SOURCE\_ID attributes are the same as in the ESI coverage. This coverage contains all annotation used in producing the atlas. The annotation features are categorized into three subclasses in order to simplify the mapping and quality control procedures: geog or geographic features, soc or socioeconomic features and hydro or water features.

### 5.1.2. ATTRIBUTES:

#### 5.1.2.1. ATTRIBUTE LABEL:

WATER\_CODE

#### 5.1.2.2. ATTRIBUTE DEFINITION:

Specifies a polygon as either water or land

#### 5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:	5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:
W L	Water Land

#### 5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:

Research Planning, Inc.

#### 5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

LINE

**5.1.2.2. ATTRIBUTE DEFINITION:**

Type of geographic feature

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

<b>5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:</b>	<b>5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:</b>
--	---

B	Breakwater
H	Hydrography or stream features
I	Index for map/quad boundary
P	Pier
S	Shoreline

<b>5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:</b>	Research Planning, Inc.
--	-------------------------

**5.1.2.1. ATTRIBUTE LABEL:**

SOURCE\_ID

**5.1.2.2. ATTRIBUTE DEFINITION:**

Type of geographic feature

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

<b>5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:</b>	<b>5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:</b>
--	---

0	Digital
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<b>5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:</b>	Research Planning, Inc.
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## **5.1. DETAILED DESCRIPTION: INDEX**

The coverage INDEX contains the map boundaries for each quad/map in the atlas.

### **5.1.1. ENTITY TYPES:**

<b>5.1.1.1. ENTITY TYPE LABEL:</b>	<b>5.1.1.2. ENTITY TYPE DEFINITION:</b>
<u>GT-Polygons</u>	TILE-NAME character
	TOPO-NAME character
	SCALE integer
	MAPANGLE floating point
	PAGESIZE character

### **5.1.2. ATTRIBUTES:**

#### **5.1.2.1. ATTRIBUTE LABEL:**

TILE-NAME

#### **5.1.2.2. ATTRIBUTE DEFINITION:**

The TILE-NAME contains the map number according to the specified layout of the atlas. During the map production process the value of TILE-NAME is plotted on the map product to order the maps in a coherent manner. The values for each polygon are unique and range from 1 through 41.

#### **5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

#### **5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

#### **5.1.2.1. ATTRIBUTE LABEL:**

TOPO-NAME

#### **5.1.2.2. ATTRIBUTE DEFINITION:**

USGS 1:24,000 topographic map name. Some polygons straddle two or more maps and all map names are included in this attribute. The date (latest/revised) of the USGS maps are also included in this field.

#### **5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

ANO NUEVO, CALIF. (1968); FRANKLIN POINT, CALIF. (1968); PIGEON POINT, CALIF. (1968)  
 BIG SUR, CALIF. (1983); POINT SUR, CALIF. (1983)  
 BOLINAS, CALIF. (1978)  
 BURRO MOUNTAIN, CALIF. (1972)  
 CAMBRIA, CALIF. (1979)  
 CAPE SAN MARTIN, CALIF. (1949); LOPEZ POINT, CALIF. (1984)

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

CASMALIA, CALIF. (1982)  
CAYUCOS, CALIF. (1965)  
DAVENPORT, CALIF. (1968); ANO NUEVO, CALIF. (1968)  
DOUBLE POINT, CALIF. (1976); INVERNESS, CALIF. (1976)  
DRAKES BAY, CALIF. (1976)  
FARALLON ISLANDS, CALIF. (1988)  
HALF MOON BAY, CALIF. (1978); MONTARA MOUNTAIN, CALIF. (1980)  
LOMPOC HILLS, CALIF. (1971); TRANQUILLON MTN, CALIF. (1978)  
LOPEZ POINT, CALIF. (1984)  
MONTARA MOUNTAIN, CALIF. (1980); SAN FRANCISCO SOUTH, CALIF. (1980)  
MONTEREY, CALIF. (1983)  
MORRO BAY NORTH, CALIF. (1965); CAYUCOS, CALIF. (1965)  
MORRO BAY SOUTH, CALIF. (1978)  
MOSS LANDING, CALIF. (1980); WATSONVILLE WEST, CALIF. (1980)  
OCEANO, CALIF. (1979)  
PARTINGTON RIDGE, CALIF. (1984)  
PFEIFFER POINT, CALIF. (1983)  
PICO CREEK, CALIF. (1979); SAN SIMEON, CALIF. (1976)  
PIEDRAS BLANCAS, CALIF. (1976)  
PIGEON POINT, CALIF. (1968); SAN GREGORIO, CALIF. (1968)  
PISMO BEACH, CALIF. (1978); PORT SAN LUIS, CALIF. (1979)  
POINT BONITA, CALIF. (1978); SAN RAFAEL, CALIF. (1980)  
POINT CONCEPTION, CALIF (1974)  
POINT SAL, CALIF. (1974)  
PORT SAN LUIS, CALIF. (1979)  
SALINAS, CALIF. (1984); MARINA, CALIF. (1983); PRUNEDALE, CALIF. (1981);  
MOSS LANDING (1980)  
SAN FRANCISCO SOUTH, CALIF. (1980); POINT BONITA, CALIF. (1978)  
SAN GREGORIO, CALIF. (1978); HALF MOON BAY, CALIF. (1978)  
SANTA CRUZ, CALIF. (1981)  
SEASIDE CALIF. (1983); MARINA, CALIF. (1983)  
SOBERANES POINT, CALIF. (1983)  
SOQUEL, CALIF. (1980); SANTA CRUZ, CALIF. (1981)  
SURF, CALIF. (1974)  
TRANQUILLON MTN., CALIF. (1978); POINT ARGUELLO, CALIF. (1978)  
VILLA CREEK, CALIF. (1949); CAPE SAN MARTIN, CALIF. (1949)

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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:  
Research Planning, Inc.**

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

SCALE

**5.1.2.2. ATTRIBUTE DEFINITION:**

SCALE contains the value of the denominator of the scale at which the INDEX polygon is plotted in the final map product.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

46,500
50,000

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE****DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

MAPANGLE

**5.1.2.2. ATTRIBUTE DEFINITION:**

MAPANGLE contains a value (usually negative) to rotate the final map product so that it is situated straight up and down.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

-1.40
-1.30
-1.20
-1.10
-1.00
-0.90
-0.80
-0.75
-0.70
-0.65
-0.60
-0.55
-0.48
-0.40
-0.35
-0.30
-0.25
-0.15
-0.10
0.00

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
PAGESIZE

**5.1.2.2. ATTRIBUTE DEFINITION:**  
PAGESIZE contains the value of the width and height of the map in the final map product.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

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11,17  
17,11

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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

## 5.1. DETAILED DESCRIPTION: INVERT (formerly SHELLFISH)

The data layer INVERT contains the polygons with invertebrate species.

The following INVERT species are found in the Central California ESI atlas:

SPECIES ID	NAME
14	Dungeness crab
18	Pismo clam
20	California mussel
21	Washington butter clam
24	Gaper clam
28	Pacific razor clam
29	Common Pacific littleneck clam
32	Geoduck
35	Rock scallop
54	California spiny lobster
60	Abalone
61	Red abalone
62	Black abalone
65	Pink abalone
69	Bay ghost shrimp
73	Squid
79	Pacific oyster
86	Red sea urchin
87	California brackish water snail

### 5.1.1. ENTITY TYPES:

#### 5.1.1.1. ENTITY TYPE LABEL:

#### 5.1.1.2. ENTITY TYPE DEFINITION:

<u>GT-Polygons</u>	ID	integer
	RARNUM	integer

### 5.1.2. ATTRIBUTES:

#### 5.1.2.1. ATTRIBUTE LABEL:

ID

#### 5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the BIO\_LUT table. ID is a concatenation of atlas number (8), element number (7), and record number. ID values of 9999 are holes in polygons and do not contain information.

#### 5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

NOAA

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:  
NOAA**

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:  
nominal**

**5.1.2.1. ATTRIBUTE LABEL:  
RARNUM**

**5.1.2.2. ATTRIBUTE DEFINITION:**

An identifier that links directly to the BIORES table or the flat format BIOFILE table

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:  
NOAA**

**5.1.2.4.1.1. ENUMERATED  
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN  
VALUE DEFINITION:**

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1-N	Unique number
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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:  
NOAA**

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:  
nominal**

## 5.1. DETAILED DESCRIPTION: M\_MAMMAL

The data layer M\_MAMMAL contains the polygons with marine mammal species.

The following M\_MAMMAL species are found in the Central California ESI atlas:

SPECIES ID	NAME
1	Northern (Steller) sea lion
2	Harbor seal
3	Northern fur seal
6	Harbor porpoise
7	Sea otter
11	Fin whale
12	Minke whale
13	Humpback whale
17	Bottlenose dolphin
20	Northern right-whale dolphin
22	California sea lion
23	Guadalupe fur seal
24	Northern elephant seal
26	Gray whale
29	Blue whale
45	Pacific white-sided dolphin
46	Risso's dolphin
47	Dall's porpoise
48	Sperm whale

### 5.1.1. ENTITY TYPES:

#### 5.1.1.1. ENTITY TYPE LABEL:

#### 5.1.1.2. ENTITY TYPE DEFINITION:

<u>GT-Polygons</u>	ID	integer
	RARNUM	integer

### 5.1.2. ATTRIBUTES:

#### 5.1.2.1. ATTRIBUTE LABEL:

ID

#### 5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the BIO\_LUT table. ID is a concatenation of atlas number (8), element number (4), and record number. ID values of 9999 are holes in polygons and do not contain information.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
NOAA

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
RARNUM

**5.1.2.2. ATTRIBUTE DEFINITION:**

An identifier that links directly to the BIORES table or the flat format BIOFILE table

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
NOAA

**5.1.2.4.1.1. ENUMERATED  
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN  
VALUE DEFINITION:**

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1-N                          Unique number

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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

## 5.1. DETAILED DESCRIPTION: NESTS

The data layer NESTS contains entity points representing nesting sites.

The following species are found in the NESTS data layer of the Central California ESI atlas:

SPECIES ID	NAME
8	Double-crested cormorant
9	Brandt's cormorant
10	Pelagic cormorant
17	Pintail
37	Western gull
43	Heermann's gull
46	Common murre
47	Pigeon guillemot
49	Cassin's auklet
50	Rhinoceros auklet
51	Tufted puffin
53	Northern phalarope
68	Black oystercatcher
74	Black turnstone
79	Cormorant
86	Least tern
96	Leach's storm-petrel
107	Peregrine falcon
118	Brown pelican
136	Caspian tern
138	Forster's tern
144	Ashy storm-petrel
155	Willet

### 5.1.1. ENTITY TYPES:

#### 5.1.1.1. ENTITY TYPE LABEL:

#### 5.1.1.2. ENTITY TYPE DEFINITION:

<u>Entity Points</u>	ID	integer
	RARNUM	integer

### 5.1.2. ATTRIBUTES:

#### 5.1.2.1. ATTRIBUTE LABEL:

ID

#### 5.1.2.2. ATTRIBUTE DEFINITION:

A unique identifier that links to the BIO\_LUT table. ID is a concatenation of (8), element number (5), and record number.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
NOAA

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
RARNUM

**5.1.2.2. ATTRIBUTE DEFINITION:**

An identifier that links directly to the BIORES table or the flat format BIOFILE table

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
NOAA

**5.1.2.4.1.1. ENUMERATED  
DOMAIN VALUE:**

1-N

**5.1.2.4.1.2. ENUMERATED DOMAIN  
VALUE DEFINITION:**

Unique number

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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

## **5.1. DETAILED DESCRIPTION: REPTILES**

The data layer REPTILES contains the polygons with reptile species.

The following REPTILES species are found in the Central California ESI atlas:

SPECIES ID	NAME
5	Leatherback sea turtle

### **5.1.1. ENTITY TYPES:**

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>GT-Polygons</u>	ID integer RARNUM integer

### **5.1.2. ATTRIBUTES:**

#### **5.1.2.1. ATTRIBUTE LABEL:**

ID

#### **5.1.2.2. ATTRIBUTE DEFINITION:**

A unique identifier that links to the BIO\_LUT table. ID is a concatenation of atlas number (8), element number (6), and record number. ID values of 9999 are holes in polygons and do not contain information.

#### **5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

NOAA

#### **5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

NOAA

#### **5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

#### **5.1.2.1. ATTRIBUTE LABEL:**

RARNUM

#### **5.1.2.2. ATTRIBUTE DEFINITION:**

An identifier that links directly to the BIORES table or the flat format BIOFILE table

#### **5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

NOAA

CENTRAL CALIFORNIA METADATA

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

1-N

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

Unique number

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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

## 5.1. DETAILED DESCRIPTION: SEASONAL

The data table SEASONAL specifies the month when each species is present.

### 5.1.1. ENTITY TYPES:

#### 5.1.1.1. ENTITY TYPE LABEL:

#### 5.1.1.2. ENTITY TYPE DEFINITION:

<u>Attributes</u>	ELEMENT	character
SPECIES_ID	integer	
SEASON_ID	integer	
JAN	character	
FEB	character	
MAR	character	
APR	character	
MAY	character	
JUN	character	
JUL	character	
AUG	character	
SEP	character	
OCT	character	
NOV	character	
DEC	character	
EL_SPE_SEA	character	

### 5.1.2. ATTRIBUTES:

#### 5.1.2.1. ATTRIBUTE LABEL:

ELEMENT

#### 5.1.2.2. ATTRIBUTE DEFINITION:

Major categories of biological data

#### 5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

#### 5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

#### 5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:

BIRD	Birds
FISH	Fish
HABITAT	Habitats and Rare Plants
INVERT	Invertebrates
M_MAMMAL	Marine Mammals
REPTILE	Reptiles and Amphibians

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
SPECIES\_ID

**5.1.2.2. ATTRIBUTE DEFINITION:**

Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained by NOAA.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED  
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN  
VALUE DEFINITION:**

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1-N	Unique number
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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
SEASON\_ID

**5.1.2.2. ATTRIBUTE DEFINITION:**

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location. There can be one seasonality record per species, or the same species can have different monthly presence or breeding activities at different sites. When this occurs, a new record with a different SEASON\_ID is referenced

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

1-N

Unique number

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

JAN

**5.1.2.2. ATTRIBUTE DEFINITION:**

Present in January

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

X

Present  
(blank) Not present**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

FEB

**5.1.2.2. ATTRIBUTE DEFINITION:**

Present in February

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

X

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

Present  
(blank) Not present

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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
MAR

**5.1.2.2. ATTRIBUTE DEFINITION:**  
Present in March

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

X

Present  
(blank) Not present

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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
APR

**5.1.2.2. ATTRIBUTE DEFINITION:**  
Present in April

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

X

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

Present  
(blank) Not present

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

MAY

**5.1.2.2. ATTRIBUTE DEFINITION:**

Present in May

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

X

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

Present  
(blank) Not present

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

JUN

**5.1.2.2. ATTRIBUTE DEFINITION:**

Present in June

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

X

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

Present  
(blank) Not present

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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**

JUL

**5.1.2.2. ATTRIBUTE DEFINITION:**

Present in July

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

X

Present  
(blank) Not present

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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**

AUG

**5.1.2.2. ATTRIBUTE DEFINITION:**  
Present in August

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

X

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

Present  
(blank) Not present

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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**

SEP

**5.1.2.2. ATTRIBUTE DEFINITION:**

Present in September

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

X

Present  
(blank) Not present

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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**

OCT

**5.1.2.2. ATTRIBUTE DEFINITION:**  
Present in October

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

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X

Present  
(blank) Not present

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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**

NOV

**5.1.2.2. ATTRIBUTE DEFINITION:**

Present in November

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

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X

Present  
(blank) Not present

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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**

DEC

**5.1.2.2. ATTRIBUTE DEFINITION:**  
Present in December

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

X

Present  
(blank) Not present**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal**5.1.2.1. ATTRIBUTE LABEL:**  
EL\_SPE\_SEA**5.1.2.2. ATTRIBUTE DEFINITION:**

Concatenation of the first character of the ELEMENT, the SPECIES\_ID, and the SEASON\_ID that provides a link from the BIORES table to the BREED table.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

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## 5.1. DETAILED DESCRIPTION: SOC\_DAT

The data table SOC\_DAT contains the human-use attributes and links to the data layer SOCECON either directly using HUNUM or through the unique ID using SOC\_LUT.

### 5.1.1. ENTITY TYPES:

#### 5.1.1.1. ENTITY TYPE LABEL:

#### 5.1.1.2. ENTITY TYPE DEFINITION:

<u>Attributes</u>	TYPE	
NAME	character	
CONTACT	character	
PHONE	character	
G_SOURCE	integer	
A_SOURCE	integer	
OWNER	character	
COMMENTS	character	
HUNUM	integer	

### 5.1.2. ATTRIBUTES:

#### 5.1.2.1. ATTRIBUTE LABEL:

TYPE

#### 5.1.2.2. ATTRIBUTE DEFINITION:

Identifies the feature type

#### 5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

#### 5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

#### 5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:

ACCESS	Access
AIRPORT	Airport
AQUACULTURE	Aquaculture
ARCHAEOLOGICAL SITE	Archaeological Site
BOAT RAMP	Boat Ramp
COAST GUARD	Coast Guard
COMMERCIAL FISHING/FISHERY AREA	Commercial Fishing/Fishery Area
HISTORICAL SITE	Historical Site
HOIST	Hoist
MARINA	Marina
MARINE SANCTUARY	Marine Sanctuary
NATIONAL PARK	National Park
PARK/STATE PARK	Park/State Park
RECREATIONAL BEACH	Recreational Beach
RECREATIONAL FISHING/PUBLIC FISHING	Recreational Fishing/Public Fishing

<b>5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:</b>	<b>5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:</b>
WATER INTAKE	Water Intake
WILDLIFE REFUGE/WILDLIFE RESERVE	Wildlife Refuge/Wildlife Reserve
<b>5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:</b>	
Research Planning, Inc.	
<b>5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:</b>	
nominal	
<b>5.1.2.1. ATTRIBUTE LABEL:</b>	
NAME	
<b>5.1.2.2. ATTRIBUTE DEFINITION:</b>	
The feature name	
<b>5.1.2.3. ATTRIBUTE DEFINITION SOURCE:</b>	
Research Planning, Inc.	
<b>5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:</b>	
ABALONE FISHING AREA	
ABALONE HARVEST AREA	
ABALONE HARVESTING	
ACCESS	
AGATE BEACH	
ANDREW MOLERA STATE PARK	
ANO NUEVO POINT & ISLAND STATE RESERVE	
ARCHEAOLOGICAL SITE	
ASILOMAR STATE BEACH	
ATASCADERO BEACH/MORRO STRAND CLAM RSRV.	
AVILA STATE BEACH	
BAY MARINA	
BEAN HOLLOW STATE BEACH	
BIG BASIN REDWOOD STATE PARK	
BOAT RAMP	
BOLINAS LAGOON NATURE MARINE RESERVE OSP	
CA PARKS & REC. DESALINATION PLANT	
CA SEA OTTER GAME REFUGE	
CAPITOLA CITY BEACH	
CAPITOLA FISHING WHARF	
CARMEL BAY ECOLOGICAL RESERVE	
CARMEL CITY BEACH	
CARMEL RIVER STATE BEACH	
CAYUCOS STATE BEACH	
CENTRAL COAST ABALONE	

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

CENTRAL COAST SALMON ENHANCEMENT  
CENTRAL PACIFIC MARICULTURE  
CITY OF MORRO BAY DESALINIZATION PLANT  
COMMERCIAL FISHING  
COMMERCIAL SALMON FISHING  
DIABLO CANYON NUCLEAR POWER PLANT  
DOUBLE POINT - ASBS  
DUXBURY REEF AND EXTENSION RESERVE ASBS  
ECTERO DE LIMANTOUR RESERVE  
ELKHORN SLOUGH NATL. EST. RESEARCH RES.  
FARALLON ISLAND NTL. WILDLIFE REFUGE  
FARALLON ISLANDS STATE GAME REFUGE  
FISHERY AREA  
FISHERY AREANG  
GARRAPATA STATE PARK  
GOLDEN GATE NATIONAL RECREATION AREA  
GOLDEN GATE NRA STINSON BEACH  
GRANITE CANYON LABS  
GRAY WHALE COVE STATE BEACH  
GREYHOUND ROCK FISHING ACCESS  
GULF OF FARALLONES NTL. MARINE SANCTUARY  
HALF MOON BAY AIRPORT  
HALIBUT FISHING AREA  
HAYS PERKINS PARK/SHORELINE PARK  
HEARST AIRPORT  
HOIST  
HOPKINS MARINE LIFE LAB WATER INTAKE  
HOPKINS MARINE LIFE LAB. & REFUGE  
JALAMA BEACH COUNTY PARK  
JAMES FITZGERALD MARINE RESERVE  
JOHN LITTLE STATE RESERVE  
JULIA PFEIFFER BURNS STATE PARK  
LANDELS HILL--BIG CREEK RESERVE  
LANDING FIELD  
LARGE BOAT HOIST  
LIFE SAVING STATION  
LIGHTHOUSE FIELD STATE BEACH  
LINATOUR RECREATIONAL BEACH  
LOBSTER FISHING  
LOMPOC LANDING ACCESS  
LONG MARINE LABORTORY & WATER INTAKE  
M-438-01 PARCEL 1-JOHNSON OYSTER CO.  
M-438-01 PARCEL 2-JOHNSON OYSTER CO.  
MANRESSA STATE BEACH  
MARINA  
MARINA STATE PARK & BEACH  
MONTANA BEACH

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

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MONTANA DE ORO STATE PARK  
MONTEREY ABALONE COMPANY  
MONTEREY BAY ACADEMY LANDING STRIP  
MONTEREY BAY AQUARIUM  
MONTEREY BAY NATIONAL MARINE SANCTUARY  
MONTEREY BAY SALMON PROJECT  
MONTEREY MARINA & MUNICIPAL WHARFS  
MONTEREY MUNICIPAL AIRPORT  
MONTEREY STATE BEACH  
MORRO BAY AQUARIUM  
MORRO BAY BOAT RAMPS  
MORRO BAY FUEL DOCK MARINA  
MORRO BAY MARINA  
MORRO BAY STATE PARK  
MORRO DUNES ECOLOGICAL RESERVE  
MORRO DUNES NATURAL PERSERVE  
MORRO ESTUARY NATURAL PRESERVE  
MORRO ROCK ECOLOGICAL RESERVE  
MORRO STRAND CLAM RESERVE  
MORRO STRAND STATE BEACH  
MORRO STRAND/GRAND STRAND/GALE BEACH  
MOSS LANDING MARINE LAB WATER INTAKE  
MOSS LANDING STATE BEACH  
MOSS LANDING WILDLIFE AREA  
MOUNT TAMALPAIS STATE PARK  
MOUNT TAMALPAIS STATE PARK  
MUIR BEACH  
NATURAL BRIDGES BEACH STATE PARK  
NEW BRIGHTON STATE BEACH  
NIPOMO DUNES PRESERVE  
OCEAN BEACH COUNTY PARK  
OCEANO AIRPORT  
PACIFIC ABALONE COMPANY  
PACIFIC GROVE MARINE GARDENS FISH REFUGE  
PACIFIC MARICULTURE  
PFEIFFER BEACH  
PFEIFFER BIG SUR STATE PARK  
PGE MORRO BAY POWER PLANT  
PIGEON POINT LIGHTHOUSE & HOTEL (SMCSB)  
PISMO DUNES VEHICULAR RECREATION AREA  
PISMO INVERTEBRATE RESERVE  
PISMO STATE BEACH  
PISMO/OCEANO BEACH CLAM RESERVE  
POINT LOBOS ECOLOGICAL RESERVE  
POINT REYES HEADLAND RESERVE  
POINT REYES NATIONAL SEASHORE  
POINT SAL BEACH STATE PARK

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

POINT SUR STATE HISTORIC PARK  
PUBLIC FISHING  
RECREATIONAL BEACH  
RECREATIONAL FISHING  
RED ABALONE/RED SEA URCHINE HARVEST AREA  
RED SEA URCHINE HARVEST AREA  
RES SEA URCHINE HARVESTING AREA  
ROCKAWAY BEACH  
SALINAS RIVER NATIONAL WILDLIFE REFUGE  
SALINAS RIVER STATE BEACH  
SALMON CREEK ASBS  
SALMON FISHING  
SALMON FISHING AREA  
SAN MATEO COAST STATE BEACHES  
SAN PEDRO BEACH  
SAN SIMEON BEACH STATE PARK  
SANTA CRUZ BEACH & BOARDWALK  
SANTA CRUZ SMALL CRAFT HARBOR  
SCOTT CREEK BEACH  
SCOTT CREEK/MONTEREY BAY SALMON PROJECT  
SEA OTTER GAME REFUGE  
SEABRIGHT BEACH  
SEACLIFF STATE BEACH  
SEACLIFF STATE BEACH & PIER  
SHARP PARK BEACH & PACIFICA PIER  
SIEWERS OYSTER AQUACULTURE  
SILVERKING OCEANIC FARMS  
STATE PARK MARINA  
SUNSET STATE BEACH  
SURF FISHING  
THE ABALONE FARM, INC.  
THE NATURE CONSERVANCY--ELKHORN SLOUGH  
THORNTON BEACH STATE PARK  
TOMALES BAY STATE PARK  
TWIN LAKES STATE BEACH  
U S COAST GUARD RESERVE STATION  
U. S. COAST GUARD STATION  
UNITED STATES COAST GUARD STATION  
US ABALONE  
VANDENBERG USAF BASE  
WATER INTAKE  
WATSONVILLE MUNICIPAL AIRPORT  
WILDER RANCH STATE PARK  
WILLAMS SHELLFISH FARMS  
WILLIAM R. HEARST MEMORIAL STATE BEACH  
ZMUDOWSKI BEACH STATE PARK

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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
CONTACT

**5.1.2.2. ATTRIBUTE DEFINITION:**  
Contact person

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
PHONE

**5.1.2.2. ATTRIBUTE DEFINITION:**  
Telephone number

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
G\_SOURCE

**5.1.2.2. ATTRIBUTE DEFINITION:**  
A link to EXPERT\_ID in the supplementary data table  
EXPERTS. Formerly called EXPERT\_ID. Item name has been  
changed to G\_SOURCE to maintain consistency with the  
latest ESI data structure.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED  
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN  
VALUE DEFINITION:**

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1-N

Unique link

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
A\_SOURCE

**5.1.2.2. ATTRIBUTE DEFINITION:**  
A duplicate link to EXPERT\_ID in the supplementary data table EXPERTS. The A\_SOURCE field has been added to maintain consistency with the latest ESI data structure.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED  
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN  
VALUE DEFINITION:**

1-N

Unique link

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
OWNER

**5.1.2.2. ATTRIBUTE DEFINITION:**  
Contains owner or responsible party, if applicable

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED  
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN  
VALUE DEFINITION:**

1-N

Unique link

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
COMMENTS

**5.1.2.2. ATTRIBUTE DEFINITION:**  
Lists any special comments about the feature

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**      **5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

---

1-N                          Unique link

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
HUNUM

**5.1.2.2. ATTRIBUTE DEFINITION:**  
A unique identifier that links to the SOC\_LUT lookup table  
or directly back to the SOCECON coverage

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
NOAA

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**      **5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

---

1-N                          Unique link

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

## **5.1. DETAILED DESCRIPTION: SOC\_LUT**

Lookup table to link SOC\_DAT to SOCECON data layer.

### **5.1.1. ENTITY TYPES:**

<b>5.1.1.1. ENTITY TYPE LABEL:</b>	<b>5.1.1.2. ENTITY TYPE DEFINITION:</b>
<u>Attributes</u>	HUNUM
	ID

### **5.1.2. ATTRIBUTES:**

#### **5.1.2.1. ATTRIBUTE LABEL:**

HUNUM

#### **5.1.2.2. ATTRIBUTE DEFINITION:**

A unique identifier that links SOCECON to the SOC\_DAT data table

#### **5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

NOAA

#### **5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

#### **5.1.2.1. ATTRIBUTE LABEL:**

ID

#### **5.1.2.2. ATTRIBUTE DEFINITION:**

A unique identifier that links SOC\_LUT to the SOCECON data layer

#### **5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

NOAA

#### **5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

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## 5.1. DETAILED DESCRIPTION: SOCECON

The coverage SOCECON contains the entity points and complete chains for the human-use data.

### 5.1.1. ENTITY TYPES:

5.1.1.1. ENTITY TYPE LABEL:	5.1.1.2. ENTITY TYPE DEFINITION:
<u>Complete Chains</u>	TYPE
<u>Entity Points</u>	TYPE
	ID
	HUNUM
	integer
	integer

### 5.1.2. ATTRIBUTES:

#### 5.1.2.1. ATTRIBUTE LABEL:

TYPE

#### 5.1.2.2. ATTRIBUTE DEFINITION:

Identifies a line or point with a socioeconomic, or human-use, feature. This attribute allows direct access to the type of feature instead of linking to the more detailed SOC\_DAT table.

#### 5.1.2.3. ATTRIBUTE DEFINITION SOURCE:

Research Planning, Inc.

#### 5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:

A2	Access
A	Airport
AQ	Aquaculture
AS	Archaeological Site
B / RB	Beach/Recreational Beach
BR	Boat Ramp
CG	Coast Guard
CF	Commercial Fishing / Fishery Area
HS	Historical Site
H	Hoist
M	Marina
MS	Marine Sanctuary
NP	National Park
SP	Park / State Park
RF	Recreational Fishing / Public Fishing

<b>5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:</b>	<b>5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:</b>
WI	Water Intake
WR	Wildlife Refuge / Wildlife Reserve

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**

ID

**5.1.2.2. ATTRIBUTE DEFINITION:**

A unique identifier that links to the SOC\_LUT table. ID is a concatenation of atlas number (8), element number (10), and record number.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
NOAA

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**  
NOAA

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**

HUNUM

**5.1.2.2. ATTRIBUTE DEFINITION:**

An identifier that links directly to the SOC\_DAT table.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
NOAA

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

---

1-N

Unique number

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:  
NOAA**

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:  
nominal**

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## **5.1. DETAILED DESCRIPTION: SPECIES**

The data table SPECIES identifies all species used in the ESI atlas.

### **5.1.1. ENTITY TYPES:**

#### **5.1.1.1. ENTITY TYPE LABEL:**

#### **5.1.1.2. ENTITY TYPE DEFINITION:**

<u>Attributes</u>	SPECIES_ID	integer
NAME	character	
GEN_SPEC	character	
ELEMENT	character	
SUBELEMENT	character	
NHP	character	
DATE_PUB	integer	
EL_SPE	character	

### **5.1.2. ATTRIBUTES:**

#### **5.1.2.1. ATTRIBUTE LABEL:**

SPECIES\_ID

#### **5.1.2.2. ATTRIBUTE DEFINITION:**

Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained by NOAA

#### **5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

#### **5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

#### **5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

1-N

Unique number

#### **5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

Research Planning, Inc.

#### **5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

#### **5.1.2.1. ATTRIBUTE LABEL:**

NAME

#### **5.1.2.2. ATTRIBUTE DEFINITION:**

Species common name

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

Abalone  
American avocet  
American coot  
Ashy storm-petrel  
Bald eagle  
Bay ghost shrimp  
Beach layia  
Black abalone  
Black brant  
Black oystercatcher  
Black rail  
Black scoter (common)  
Black turnstone  
Black-bellied plover  
Black-crowned night heron  
Black-necked stilt  
Blue whale  
Bottlenose dolphin  
Brandts cormorant  
Brown pelican  
Bufflehead  
Bull kelp  
California black rail  
California grunion  
California halibut  
California least tern  
California mussel  
California sea lion  
California spiny lobster  
Canvasback  
Caspian tern  
Cassins auklet  
Chinook salmon (king)  
Clapper rail  
Clover lupine  
C-O sole  
Coastal dunes milkvetch  
Coho salmon (silver)

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

Common loon  
Common murre  
Common Pacific littleneck clam  
Cormorant  
Dalls porpoise  
Double-crested cormorant  
Dungeness crab  
Eared grebe  
Eelgrass  
Fin whale  
Forsters tern  
Gaper clam  
Geoduck  
Giant kelp  
Gray whale  
Great blue heron  
Great egret  
Greater scaup  
Greater yellowlegs  
Green-winged teal  
Guadalupe fur seal  
Gulls  
Harbor porpoise  
Harbor seal  
Harlequin duck  
Heermanns gull  
Horned grebe  
Humpback whale  
Jacksmelt  
Leachs storm-petrel  
Least tern  
Leatherback sea turtle  
Lesser scaup  
Lingcod  
Marbled godwit  
Marbled murrelet  
Menzies wallflower  
Minke whale  
Night smelt  
Northern (Steller) sea lion  
Northern anchovy

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

Northern elephant seal  
Northern fur seal  
Northern harrier  
Northern phalarope  
Northern right-whale dolphin  
Northern shoveler  
Osprey  
Pacific halibut  
Pacific herring  
Pacific oyster  
Pacific razor clam  
Pacific white-sided dolphin  
Pelagic cormorant  
Peregrine falcon  
Pied-billed grebe  
Pigeon guillemot  
Pink abalone  
Pink-footed shearwater  
Pintail  
Pismo clam  
Prickly sculpin  
Rainbow trout (steelhead)  
Raptors  
Red abalone  
Red phalarope  
Red sea urchin  
Red-breasted merganser  
Red-necked grebe  
Rhinoceros auklet  
Rissos dolphin  
Rock scallop  
Rockfish  
Ruddy duck  
Salmon sp.  
Salt marsh birds-beak  
Sand (Monterey) gilia  
Sanderling  
Sea otter  
Shearwaters  
Shiner perch  
Shorebirds

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

Short-billed dowitcher  
Snowy egret  
Snowy plover  
Sooty shearwater  
Sora rail  
Sperm whale  
Squid  
Starry flounder  
Striped bass  
Surf scoter  
Surf smelt  
Surfgrass  
Surfperch  
Terns  
Threespine stickleback  
Tidewater goby  
Tufted puffin  
Virginia rail  
Wading birds  
Washington butter clam  
Waterfowl  
Western grebe  
Western gull  
White pelican  
White-winged scoter  
Willet

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**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE****DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

GEN\_SPEC

**5.1.2.2. ATTRIBUTE DEFINITION:**

Species scientific name

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

*Aechmophorus occidentalis*  
*Anas acuta*  
*Anas clypeata*  
*Anas crecca*  
*Arctocephalus townsendi*  
*Ardea herodias*  
*Arenaria melancephala*  
*Astragalus tener titi*  
*Atherinopsis californiensis*  
*Aythya affinis*  
*Aythya marila*  
*Aythya valisineria*  
*Balaenoptera musculus*  
*Balaenoptera physalus*  
*Baleonoptera acutorostrata*  
*Brachyramphus marmoratus*  
*Branta bernicla*  
*Bucephala albeola*  
*Calidris alba*  
*Callianassa californiensis*  
*Callorhinus ursinus*  
*Cancer magister*  
*Casmerodus albus*  
*Catoptrophorus semipalmatus*  
*Cephus columba*  
*Cerorhinca monocerata*  
*Charadrius alexandrinus*  
*Circus cyaneus*  
*Clupea harengus pallasi*  
*Cordylantus maritimus maritimus*  
*Cottus asper*  
*Crassostrea gigas*  
*Cymatogaster aggregata*  
*Dermochelys coriacea*  
*Egretta thula*  
*Embiotocidae*  
*Engraulis mordax*  
*Enhydra lutris*  
*Erysimum menziesii*  
*Eschrichtius robustus*  
*Eucyclogobius newberryi*

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

*Eumetopias jubatus*  
*Falco peregrinus*  
*Fulica americana*  
*Gasterosteus aculeatus*  
*Gavia immer*  
*Gilia tenuiflora arenaria*  
*Grampus griseus*  
*Haematopus bachmani*  
*Haliaeetus leucocephalus*  
*Haliotis corrugata*  
*Haliotis cracherodii*  
*Haliotis rufescens*  
*Haliotis sp.*  
*Himantopus mexicanus*  
*Hinnites multirugosus*  
*Hippoglossus stenolepis*  
*Histrionicus histrionicus*  
*Hypomesus pretiosus*  
*Lagenorhynchus obliquidens*  
*Larus heermanni*  
*Larus occidentalis*  
*Laterallus jamaicensis*  
*Laterallus jamaicensis coturniculus*  
*Layia carnosa*  
*Leuresthes tenuis*  
*Limnodromus griseus*  
*Limosa fedoa*  
*Lissodelphis borealis*  
*Loligo sp.*  
*Lunda cirrhata*  
*Lupinus tidestromii tidestromii*  
*Macrocystis pyrifera*  
*Megaptera novaeangliae*  
*Melanitta deglandi*  
*Melanitta nigra*  
*Melanitta perspicillata*  
*Mergus serrator*  
*Mirounga angustirostris*  
*Morone saxatilis*  
*Mytilus californianus*  
*Nereocystis luetkeana*

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

*Nycticorax nycticorax*  
*Oceanodroma homochroa*  
*Oceanodroma leucorhoa*  
*Oncorhynchus kisutch*  
*Oncorhynchus mykiss*  
*Oncorhynchus tshawytscha*  
*Ophiodon elongatus*  
*Oxyura jamaicensis*  
*Pandion haliaetus*  
*Panope generosa*  
*Panulirus interruptus*  
*Paralichthys californicus*  
*Pelecanus erythrorhynchos*  
*Pelecanus occidentalis*  
*Phalacrocorax auritus*  
*Phalacrocorax pelagicus*  
*Phalacrocorax penicillatus*  
*Phalacrocorax sp.*  
*Phalaropus fulicarius*  
*Phalaropus lobatus*  
*Phoca vitulina*  
*Phocoena phocoena*  
*Phocoenoides dalli dalli*  
*Phyllospadix sp.*  
*Physeter catodon*  
*Platichthys stellatus*  
*Pleuronichthys coenosus*  
*Pluvialis squatarola*  
*Podiceps auritus*  
*Podiceps grisegena*  
*Podiceps nigricollis*  
*Podilymbus podiceps*  
*Porzana carolina*  
*Protothaca staminea*  
*Ptychoramphus aleuticus*  
*Puffinus creatopus*  
*Puffinus griseus*  
*Rallus limicola*  
*Rallus longirostris*  
*Recurvirostra americana*  
*Saxidomus giganteus*

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**


---

Sebastes spp.  
Siliqua patula  
Spirinchus starksii  
Sternula albifrons  
Sternula antillarum browni  
Sternula caspia  
Sternula fosteri  
Strongylocentrotus franciscanus  
Tivela stultorum  
Tresus nuttallii  
Tringa melanaleuca  
Tursiops truncatus  
Uria aalge  
Zalophus californianus  
Zostera marina

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE****DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

ELEMENT

**5.1.2.2. ATTRIBUTE DEFINITION:**

Biological element

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**


---

BIRD	Birds
FISH	Fish
HABITAT	Habitats and Rare Plants
INVERT	Invertebrates
M_MAMMAL	Marine Mammals
REPTILE	Reptiles and Amphibians

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE****DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
SUBELEMENT

**5.1.2.2. ATTRIBUTE DEFINITION:**  
Species subgroup

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

---

abalone  
alcid  
anadromous  
beach\_sp  
cephalopod  
clam  
crab  
diving  
dolphin  
echinoderm  
gull\_tern  
kelp\_sp  
lobster  
mussel  
oyster  
pelagic  
raptor  
sav  
scallop  
sea\_lion  
sea\_otter  
seal  
shorebird  
shrimp  
shrub  
special  
turtle  
wading  
waterfowl  
whale

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**  
nominal

**5.1.2.1. ATTRIBUTE LABEL:**  
NHP

**5.1.2.2. ATTRIBUTE DEFINITION:**

This field is blank because no NHP information was gathered when this atlas was published. The field is included here to maintain consistency with the latest ESI data structure.

**5.1.2.4.1.1. ENUMERATED  
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN  
VALUE DEFINITION:**

---

Not supplied with this atlas

---

**5.1.2.1. ATTRIBUTE LABEL:**  
DATE\_PUB

**5.1.2.2. ATTRIBUTE DEFINITION:**

This field is blank because no NHP information was gathered when this atlas was published. The field is included here to maintain consistency with the latest ESI data structure.

**5.1.2.4.1.1. ENUMERATED  
DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN  
VALUE DEFINITION:**

---

Not supplied with this atlas

---

**5.1.2.1. ATTRIBUTE LABEL:**  
EL\_SPE

**5.1.2.2. ATTRIBUTE DEFINITION:**

Concatenation of the first character of the ELEMENT and the SPECIES\_ID, which provides the link from the BIORES table.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE  
DEFINITION SOURCE:**  
Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:  
nominal**

## **5.1. DETAILED DESCRIPTION: STATUS**

The data table STATUS identifies the species that are listed as either threatened or endangered on state or federal lists.

### **5.1.1. ENTITY TYPES:**

#### **5.1.1.1. ENTITY TYPE LABEL:**

#### **5.1.1.2. ENTITY TYPE DEFINITION:**

<u>Attributes</u>	ELEMENT	character
SPECIES_ID	integer	
STATE	character	
S_F	character	
T_E	character	
DATE_PUB	integer	
EL_SPE	character	

### **5.1.2. ATTRIBUTES:**

#### **5.1.2.1. ATTRIBUTE LABEL:**

ELEMENT

#### **5.1.2.2. ATTRIBUTE DEFINITION:**

Major categories of biological data

#### **5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

#### **5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

#### **5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

BIRD	Birds
FISH	Fish
HABITAT	Habitats and Rare Plants
INVERT	Invertebrates
M_MAMMAL	Marine Mammals
REPTILE	Reptiles and Amphibians

#### **5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

Research Planning, Inc.

#### **5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

SPECIES\_ID

**5.1.2.2. ATTRIBUTE DEFINITION:**

Numeric identifier for each species and is unique within each element and refers to a nationwide ESI species list maintained by NOAA

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

---

1-N

Unique number

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

STATE

**5.1.2.2. ATTRIBUTE DEFINITION:**

Two-letter state abbreviation

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:**

**5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

---

CA

California

---

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

S\_F

**5.1.2.2. ATTRIBUTE DEFINITION:**

State and Federal status

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

F	Federally listed
S	State listed
S/F	State and Federally listed

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

USFWS, CDFG

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

T\_E

**5.1.2.2. ATTRIBUTE DEFINITION:**

Threatened and endangered status

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.1. ENUMERATED DOMAIN VALUE:****5.1.2.4.1.2. ENUMERATED DOMAIN VALUE DEFINITION:**

E	Endangered
E/E	Endangered on Federal and State lists
T	Threatened
T/T	Threatened on Federal and State lists

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE DEFINITION SOURCE:**

USFWS, CDFG

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

**5.1.2.1. ATTRIBUTE LABEL:**

DATE\_PUB

**5.1.2.2. ATTRIBUTE DEFINITION:**

This is the date the atlas was published when the given state and federal listings were in effect. In some of the earlier atlases, no date may be given because this was not a data item at the time of original publication.

**5.1.2.1. ATTRIBUTE LABEL:**

EL\_SPE

**5.1.2.2. ATTRIBUTE DEFINITION:**

Concatenation of the first character of the ELEMENT and the SPECIES\_ID, which provides the link from the BIORES and SPECIES tables.

**5.1.2.3. ATTRIBUTE DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.4.1.3. ENUMERATED DOMAIN VALUE**

**DEFINITION SOURCE:**

Research Planning, Inc.

**5.1.2.5. ATTRIBUTE UNITS OF MEASUREMENT:**

nominal

## 6.0. DISTRIBUTION INFORMATION

### 6.1. DISTRIBUTOR

#### 6.1.1. CONTACT PERSON PRIMARY

##### 6.1.1.1. CONTACT PERSON:

John Kaperick

##### 6.1.1.2. CONTACT ORGANIZATION:

NOAA, Office of Response and Restoration

#### 6.1.4. CONTACT ADDRESS

##### 6.1.4.1. ADDRESS TYPE:

Physical Address

##### 6.1.4.2. ADDRESS:

7600 Sand Point Way N.E.

##### 6.1.4.3. CITY:

Seattle

##### 6.1.4.4. STATE OR PROVINCE:

W A

##### 6.1.4.5. POSTAL CODE:

98115-6349

#### 6.1.5. CONTACT VOICE TELEPHONE:

(206) 526-6944

#### 6.1.7. CONTACT FACSIMILE TELEPHONE:

(206) 526-6329

### 6.2. RESOURCE DESCRIPTION:

ESI Atlas for Central California

### 6.3. DISTRIBUTION LIABILITY:

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.

### 6.5. CUSTOM ORDER PROCESS

Contact NOAA for distribution options (see 6.1.1.).

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## 7.0. METADATA REFERENCE INFORMATION

### 7.1. METADATA DATE:

20000525

### 7.2. METADATA REVIEW DATE:

20000525

### 7.4. METADATA CONTACT

#### 7.4.1. CONTACT PERSON PRIMARY

##### 7.4.1.1. CONTACT PERSON:

Jill Petersen

##### 7.4.1.2. CONTACT ORGANIZATION:

NOAA, Office of Response and Restoration

##### 7.4.3. CONTACT POSITION:

GIS Manager

##### 7.4.4. CONTACT ADDRESS

###### 7.4.4.1. ADDRESS TYPE:

Physical Address

###### 7.4.4.2. ADDRESS:

7600 Sand Point Way N.E.

###### 7.4.4.3. CITY:

Seattle

###### 7.4.4.4. STATE OR PROVINCE:

Washington

###### 7.4.4.5. POSTAL CODE:

98115-6349

##### 7.4.5. CONTACT VOICE TELEPHONE:

(206) 526-6944

##### 7.4.7. CONTACT FACSIMILE TELEPHONE:

(206) 526-6329

##### 7.4.8. CONTACT ELECTRONIC MAIL ADDRESS:

jill\_petersen@hazmat.noaa.gov.us

### 7.5. METADATA STANDARD NAME:

Content Standards for Digital Geospatial Metadata

### 7.6. METADATA STANDARD VERSION:

19940608

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